Health Information Technology Survey Report - 11 County Bay Area

Presented to the Health Workforce Initiative (California Community College Chancellor's Office Economic and Workforce Development Program)

March 2011

[bw] RESEARCH PARTNERSHIP

2541 State Street, Suite 108, Carlsbad, CA 92008 | Tel (760) 930-9325 | Fax (888) 457-9598 | www.bwresearch.com

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EXECUTIVE SUMMARY

On April 15, 2010, the Bay Area Community College Consortium convened the Community Colleges and Workforce Investment Boards in the region to consider shared interests in Health Information Technology (Health IT). Seven areas for potential collaboration were identified, highest among them were learning more about Health IT labor market needs. This study, led by the Health Workforce Initiative (California Community College Chancellor's Office Economic and Workforce Development Program) and at least partially funded by the WIB-CC project, is a result of that interest and sheds light on where within the healthcare sector Health IT skills are most in demand and what those skills are.

LEGISLATIVE BACKGROUND FOR THE STUDY

The HITECH Act (Health Information Technology for Economic and Clinical Health) of 2009 (Part of ARRA) set forth a plan for advancing the appropriate use of health information technology to improve quality of care for each individual in the United States and establish a foundation for the electronic exchange and use of health information. Information Technology in Healthcare (Health IT) makes it possible for health care providers to better manage patient care through secure use and sharing of health information in electronic form. Health IT includes the use of electronic health records (EHRs) instead of paper medical records to maintain people's health information. The HITECH Act establishes a number of incentives to advance the appropriate use of Health IT. These include provisions or Medicare and Medicaid incentives to eligible professionals and hospitals for the meaningful use of EHR's, which in turn will assist in achieving the goal of EHR utilization for all Americans by 2014.

Critical to achieving the goal of meaningful use is a skilled workforce. ***The Community College Consortia to Educate Information Technology Professionals in Health Care*** is a national program training for competencies in six specific health IT roles:

1. Practice Workflow and Information Management Redesign Specialists
2. Clinician/Practitioner Consultants
3. Implementation Support Specialists
4. Implementation Managers
5. Technical/Software Support Staff
6. Trainers

One of the purposes of this research was to determine the need for these roles and competencies in the 11 county Bay Area.

INTRODUCTION TO THE RESEARCH

Health Information Technology is a term used to encompass the collection, transmission, analysis, and storage of medical information. This information includes medical records, insurance and billing details, diagnostic test results, and many other technical patient data. A properly designed and implemented Health IT system allows for faster and more efficient communication, which can lead to higher patient satisfaction and a reduction in medical errors.

Health Information Technology is essentially customized IT for the healthcare sector. Just like IT, the sector represents a broad category of technologies, including hardware, software, and networks. At its most basic level, Health IT includes the computers, networks, and storage devices for Electronic Health Records (EHR). At its most advanced, Health IT encompasses wireless device technology embedded in medical implants that transmit signals to medical offices for diagnosis. With the healthcare sectors becoming more reliant on these new and emerging digital technologies, there is an increased need to have employees with Health Information Technology (Health IT) skills.

The Health Workforce Initiative (California Community College Chancellor's Office Economic and Workforce Development Program) partnered with BW Research Partnership, Inc. (BW Research) to conduct a Health Information Technology Survey of healthcare firms. This study focused on specific segments within the healthcare industry most likely to be using Health IT. Specifically, offices of physicians (except mental health specialists), general medical and surgical hospitals, and outpatient care centers.

Data compiled for this report were drawn from 300 telephone surveys conducted among healthcare employers at hospitals, outpatient care centers and offices of physicians in the 11-county Bay Area (9-county Bay Area plus Monterey and Santa Cruz counties). Surveys were administered from November 13 through December 13, 2010 and averaged 12 minutes in length.

KEY FINDINGS & CONCLUSIONS

Based on the analysis of the survey data, BW Research is pleased to present the Health Workforce Initiative with the following key findings and conclusions from the Health Information Technology survey.

Health information technologies are already largely embedded in the Bay Area's healthcare workplace, almost two-thirds (63%) of the healthcare firms we surveyed are currently using Health IT and another 14 percent are considering its use in the near future. There were some small differences in the profiles between those firms that are already using Health IT, those that are considering it, and those that do not expect to be adopting Health Information Technologies anytime in the near future.

Profile of Employers that are Using Health Information Technologies

Not surprisingly, larger firms (50 or more employees) were somewhat more likely to have already adopted Health Information technologies, than their smaller counterparts. Hospitals and employers in the East Bay (Alameda, Contra Costa & Solana) were also

somewhat more likely to already be using Health IT than their counterparts in other industry segments (Office of Physicians and Outpatient Care Centers) or other areas of the Bay Area (South Bay and North Bay).

Profile of Employers that are Considering Health Information Technologies

Outpatient care centers were the most likely of three general industry segments to be considering the adoption of some form of Health IT in the near future. Regionally, employers from the South Bay (22%) were the most likely to be considering the move to Health IT. Mid-sized firms (11 to 49 employees) were also the most likely to be considering the adoption of Health IT in the near future.

Profile of Employers that are Not Likely to Adopt Health Information Technologies in the Near Future

Again size of the firm, as measured by the number of employees, helps us better understand the type of firms that are not considering the adoption of health information technologies, as smaller firms (5 or less employees) are the most likely to fall into this category, in comparison to their larger counterparts. Employers in the North Bay (Marin, Napa, San Francisco and Sonoma) were also the most likely, in comparison to the other areas in the Bay Area, to have employers that were not considering the adoption of health information technologies.

The Bay Area's Health Information Technology Workforce

> Key Finding: For Healthcare employers overall, Health IT will not necessarily create new jobs or increase demand for given healthcare occupations but will instead change the skills sets that healthcare employers require when hiring new employees. While clinical requirements will remain important, the technical skills associated with using and understanding new information technologies will become increasingly important and should be reflected in the overall curriculum for training and preparing new healthcare workers.

Not only are health information technologies already being used by a significant majority of today's healthcare employers[1] they are also becoming a significant part of the skills that are used and required by the healthcare workforce. According to the survey results between **two-thirds and three-quarters** of the Bay Area's healthcare workers (in our key industry segments who are currently using Health IT) spend at least half of their time utilizing health information technology applications.

From an occupational skills perspective, the healthcare positions most likely to be impacted by and important to Health IT, include;

- **Managers and decision makers** who are responsible for operating and managing Health IT systems.
- **Clinicians and practitioners** who implement and manage Health IT systems.

[1] Healthcare employers for this study include hospitals, outpatient care centers and offices of physicians.

- **Technical support staff** who provide support for Health IT users.

When asking healthcare employers what type of occupational titles that are used for these type of skills, those mentioned most often included, managers and administrators (44%), administrative support staff (33%), Licensed Vocational Nurses (LVN's) and/or Medical Assistants (22%).

Growth in Bay Area's Health Information Technology Workforce

Healthcare employment growth in the Bay Area is expected to be between three and four percent over 2011 and representing one of the stronger industries for hiring in the upcoming year. While the healthcare industry as a whole is growing considerably faster than overall employment growth in the economy, **increased employment in positions that require Health IT skills are growing at about twice the rate of the entire healthcare industry**, expected to be between seven and nine percent in 2011.

Hiring Practices for Bay Area's Health Information Technology Workforce

Health IT offers a valuable hiring opportunity for people that want to enter the healthcare industry at a mid or senior level. Historically, the healthcare industry typically develops its employees and promote them from within rather than recruit them from outside the organization. However the industry has changed as it relates to those occupations that require Health IT skills. Almost half (45%) of Bay Area healthcare employers recruit from outside their organization when looking to hire individuals, and another 15 percent are split evenly between recruiting from outside and promoting from within. Just under a quarter (24%) of healthcare employers were more likely to promote from within rather than recruit individuals from outside the organization.

Larger Firms face more difficulty finding a Qualified Health IT Workforce

Typically, larger firms with more resources and more employees are able to cope with the challenges associated with finding and developing a qualified workforce, however, health IT is somewhat shaking that assumption on its head as firms with more employees are having greater difficulties finding qualified applicants. Some of the survey results to support this contention include:

- Of the firms that have already adopted health information technologies, over half (56%) of those with 10 or more employees had difficulty finding qualified applicants for positions that required specific Health IT skills, compared to just over a third (36%) of those with nine or less employees.

- Of the firms that have already adopted health information technologies, over forty percent of those with 25 or more employees have outsourced[2] Health IT work to vendors, compared to less than a quarter (25%) of those with nine or less employees.

[2] Outsourcing work to vendors is often seen as proxy measure for firms ability to find qualified applicants for related skills.

For additional detail on the research findings and a complete assessment of the survey results, please proceed to the body of the report beginning on the next page.

INDUSTRY OUTLOOK

LONG-TERM OUTLOOK: SECONDARY DATA[3]

The healthcare industry as defined in this study represents 5,984 total establishments and 159,911 total employees within offices of physicians (except mental health specialists), general medical and surgical hospitals, and outpatient care centers in the 11-count Bay Area. Offices of physicians (except mental health specialists) comprise the most establishments (5,091, 85% of total), while hospitals have the most employees (99,466, 62% of total).

Figure 1: 2010 Number of Establishments

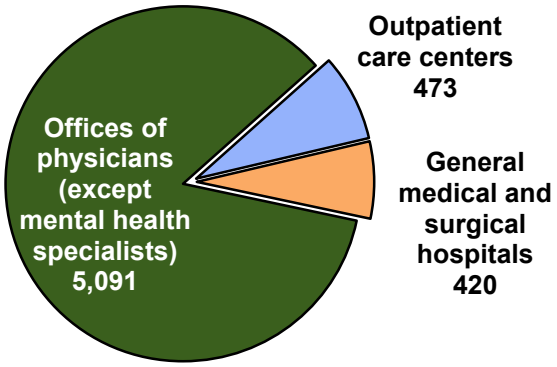
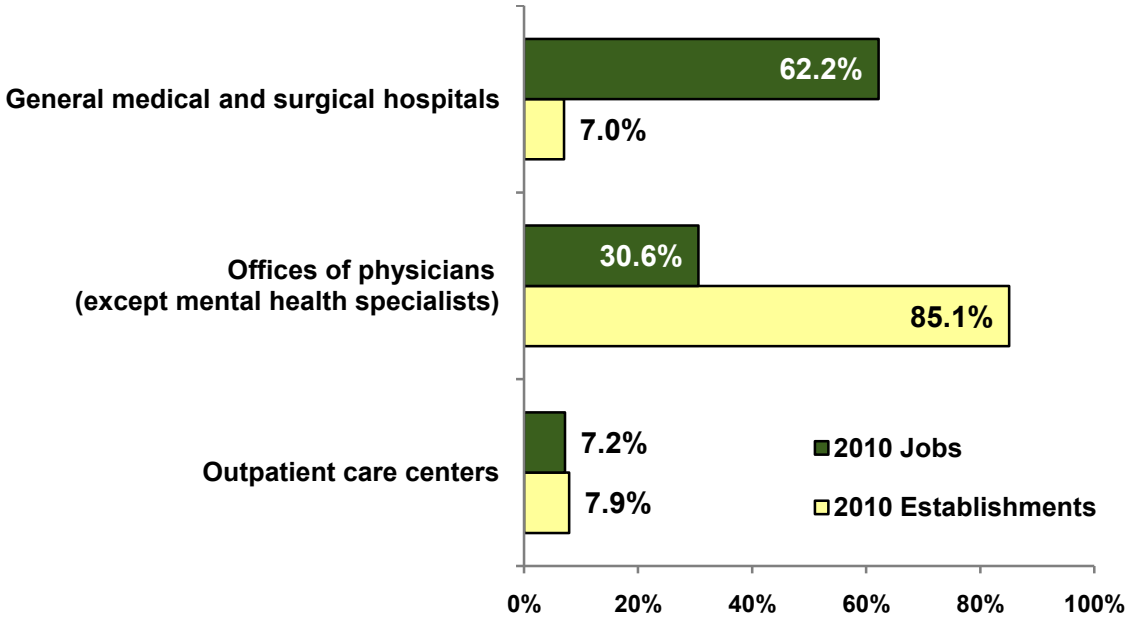


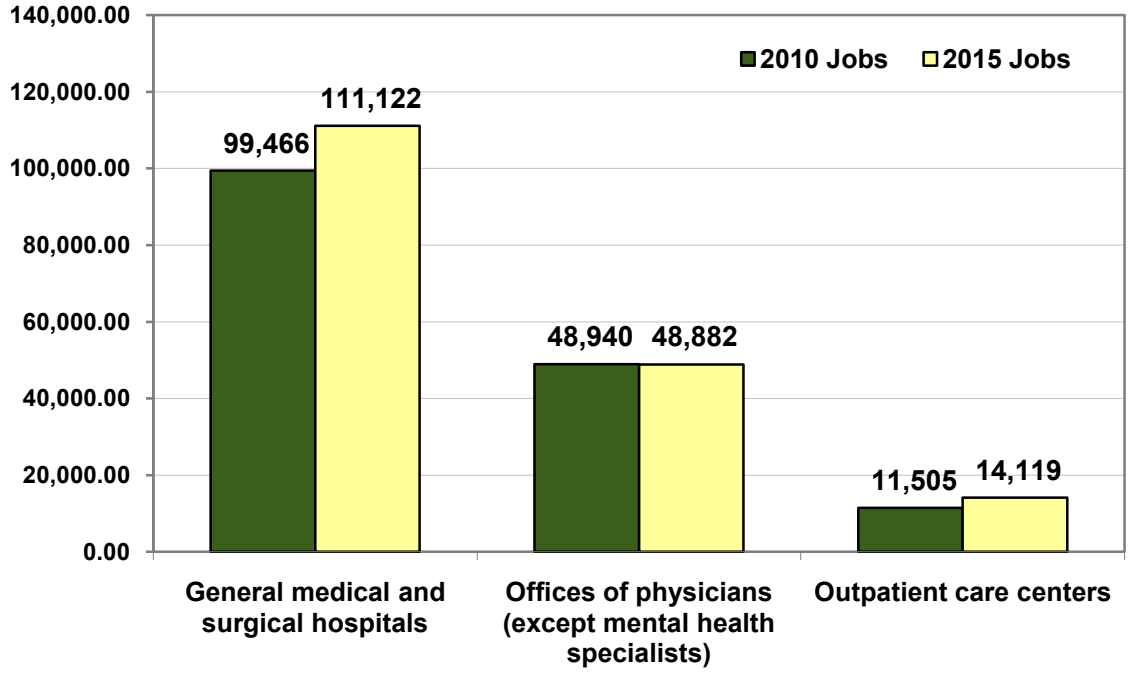
Figure 2: Industry Composition



[3] Source: Economic Modeling Specialists Inc. (EMSI) Complete Employment – 4th Quarter 2010 for Alameda, Contra Costa, Marin, Monterey, Napa, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, Sonoma) counties.

The three healthcare sectors are expected to grow 8.9 percent by 2015, adding 14,212 jobs. Although outpatient care centers are projected to grow at the fastest rate (22.7%, 2,614 new jobs), most of the new jobs will be found in general medical and surgical hospitals (11,656 new jobs, 11.7% growth). Employment within offices of physicians (except mental health specialists) is essentially expected to remain flat through 2015 (-0.1% growth, 56 fewer jobs).

Figure 3: Growth Projections: 2010-2015



SHORT-TERM OUTLOOK: PRIMARY DATA

In order to get more accurate short-term data, the remainder of this report focuses on survey responses from a representative sample of 300 firms in the region from the previously referenced healthcare sectors.[4]

Nineteen percent of surveyed employers expect to add more permanent and temporary employees over the next year, whereas fewer than three percent expect to cut jobs. In terms of actual job creation and based on the survey responses, these sectors are expected to grow by 3.4 percent over the coming year, representing 5,462 new jobs throughout the region. These numbers are slightly more optimistic than the 4,020 new jobs (2.5% growth) projected by EMSI from the secondary data.

Figure 4: 12-Month Industry Hiring Expectations

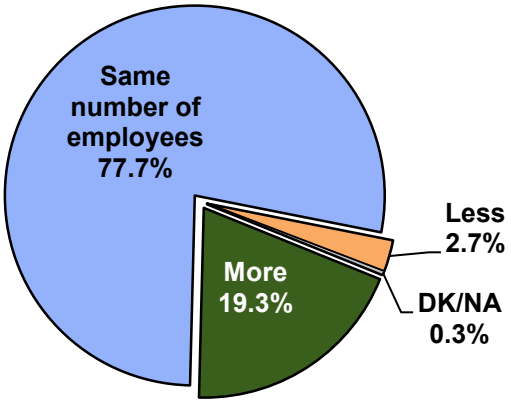
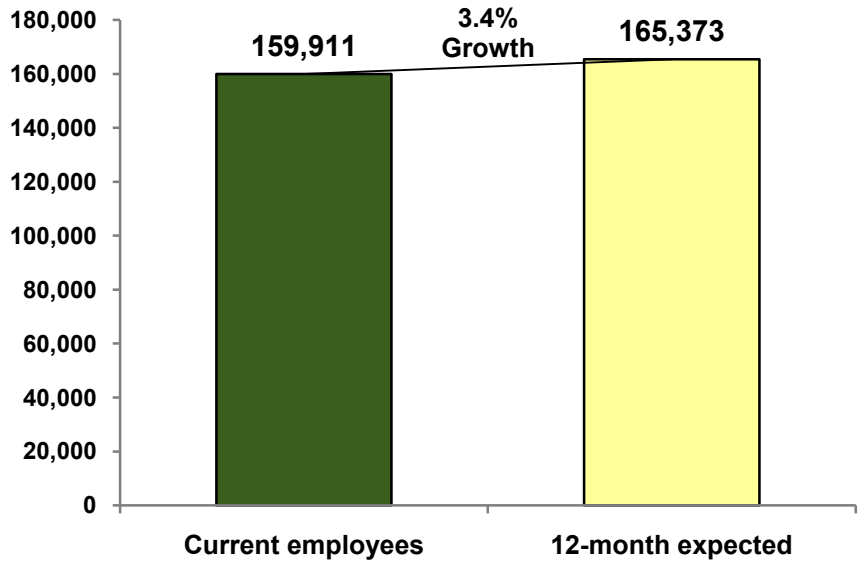


Figure 5: 12-Month Employment Growth Expectations



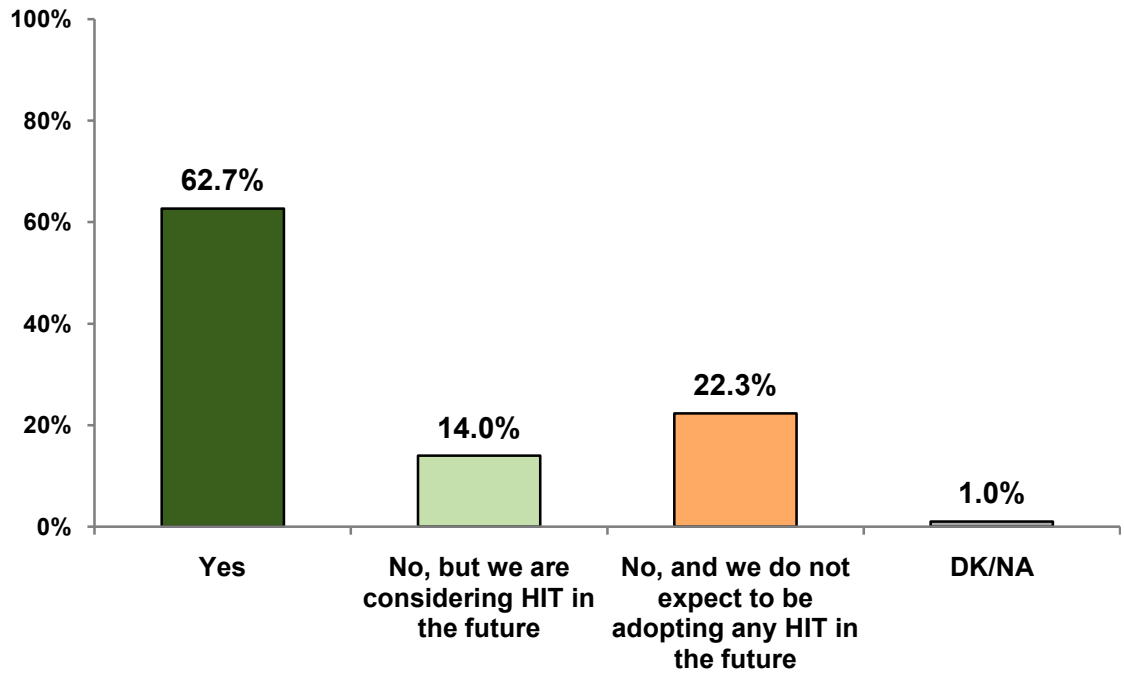
[4] Please refer to Appendix A for a description of the survey methodology.

USE OF HEALTH INFORMATION TECHNOLOGY

Sixty-three percent of the 300 healthcare firms (offices of physicians, except mental health specialists; general medical and surgical hospitals; and outpatient care centers) surveyed are currently using health information technologies, including electronic health records, electronic billing, or telemedicine and an additional 14 percent are considering it for the future.

Unless otherwise noted, the remainder of the report focuses on the 77 percent of firms that are either currently using or considering using Health IT in the future[5]. These 230 firms are referred to as Health IT firms throughout this report.

Figure 6: Use of Health IT

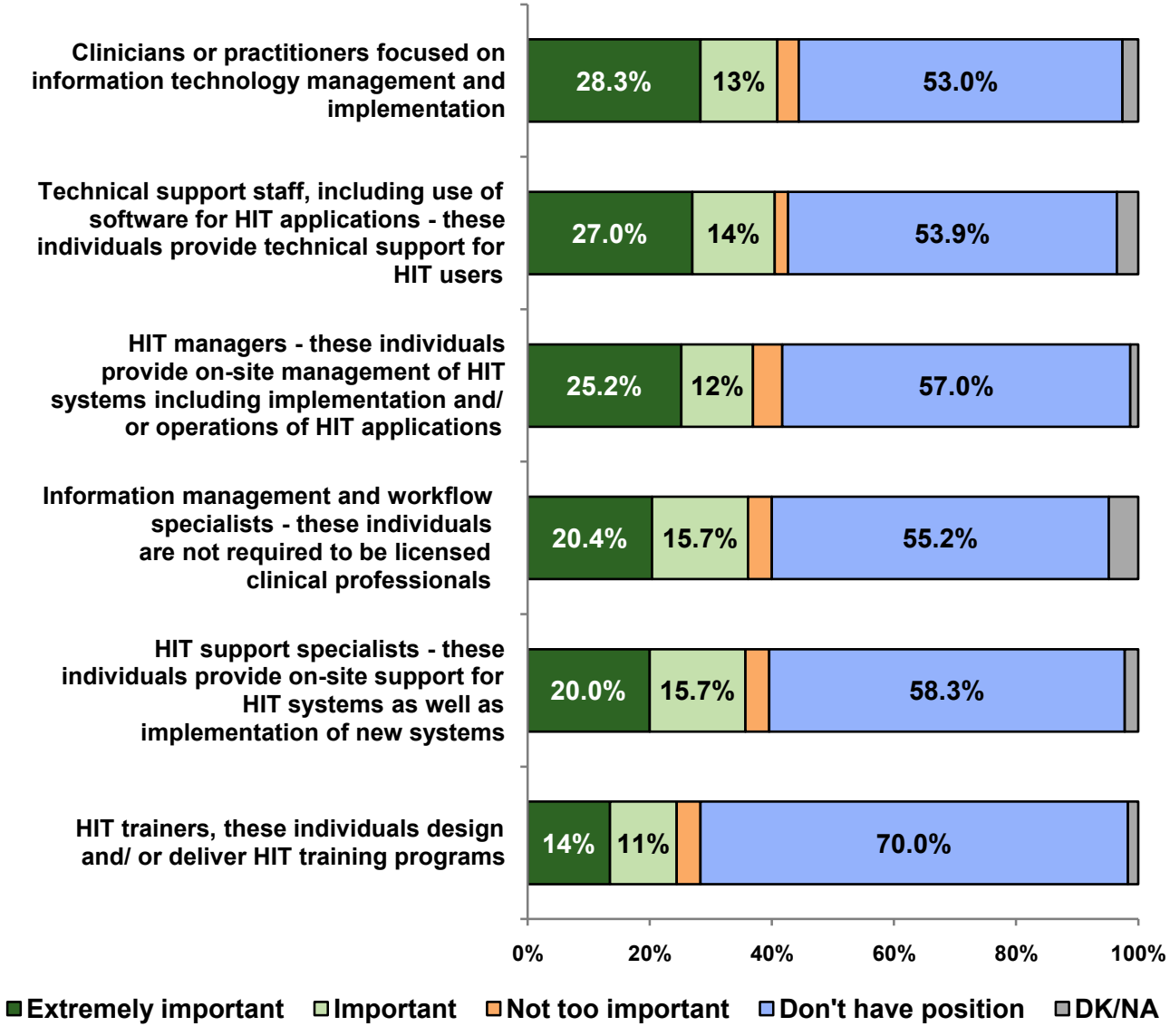


[5] Unless a statistically significant difference exists between the two groups, the data for current HEALTH IT users and those considering HEALTH IT for the future are presented together throughout this report.

HEALTH IT JOB FUNCTIONS

The Health Workforce Initiative identified six Health IT job functions, that healthcare employers evaluated the importance of. As the figure below illustrates, employers ranked clinicians or practitioners focused on information technology management and implementation, as the most important of the job functions evaluated with over 40 percent of healthcare employers indicating it was extremely important (28%) or important (13%). Just below clinicians in importance was technical support staff, also over 40 percent importance, followed by HIT managers (37% percent importance) and information management and workflow specialists (36% percent importance).

Figure 7: Importance of Health IT Job Functions



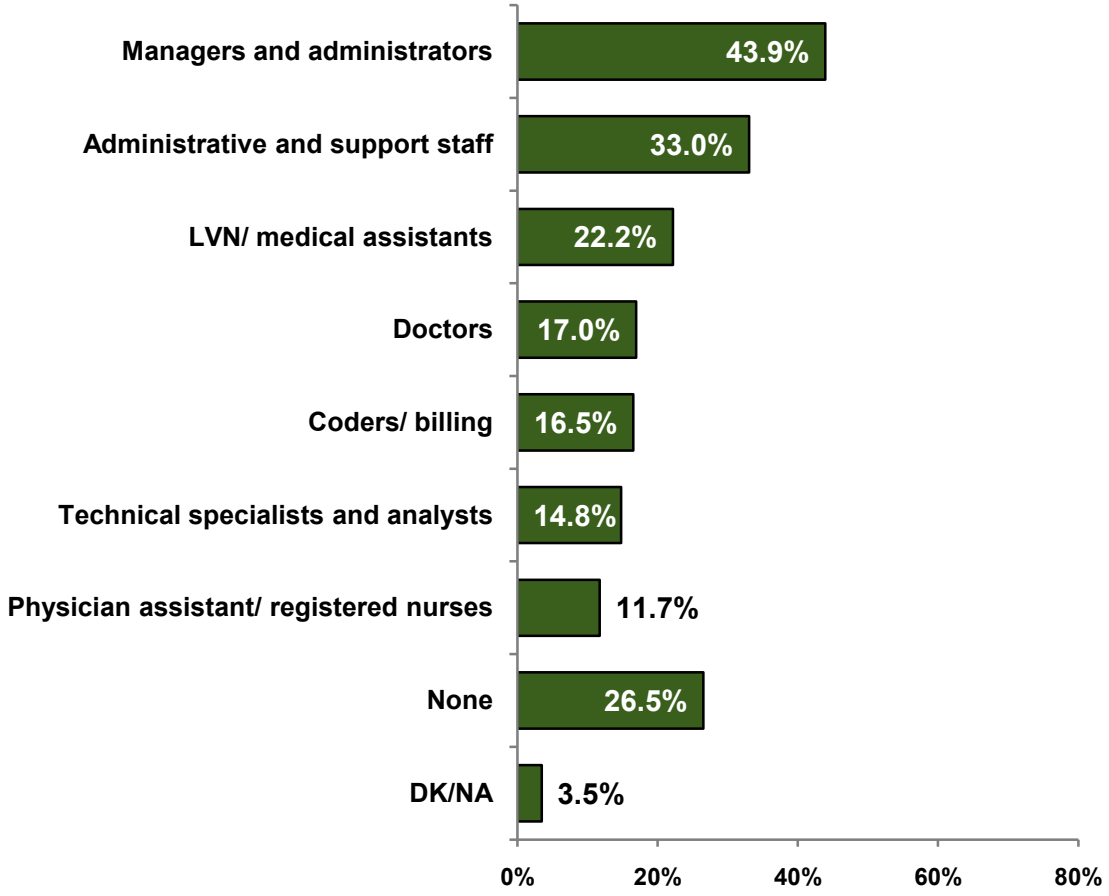
As a follow-up, Health IT firms were asked in an open-ended and multiple response format to identify the occupational titles most directly related to the Health IT job functions at their firm. Forty-four percent provided an occupational title that was coded into the category of managers and administrators and 33 percent were coded as administrative support staff.

Examples of job titles coded in the managers and administrators category include: office/ practice managers, department directors, clinical operations manager, systems administrator, and PACS administrator.

Example titles from the administrative and support staff category include receptionists, file clerks, administrative assistants, and secretaries.

As one might expect, firms considering Health IT for the future were more likely than those currently using Health IT to not currently have any positions directly related to Health IT job functions (45% vs. 22%).

Figure 8: Occupational Titles Directly Related to Health IT Job Functions[6]

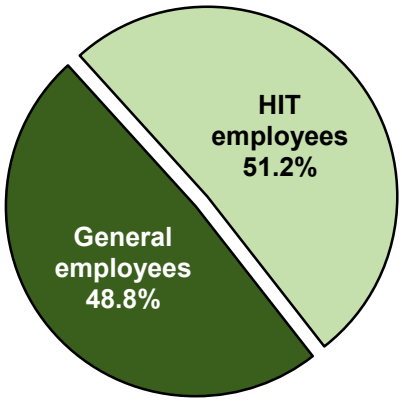


[6] For this question, respondents were free to mention multiple responses; therefore, the percentages in the figure total more than 100 percent.

HEALTH IT EMPLOYEES

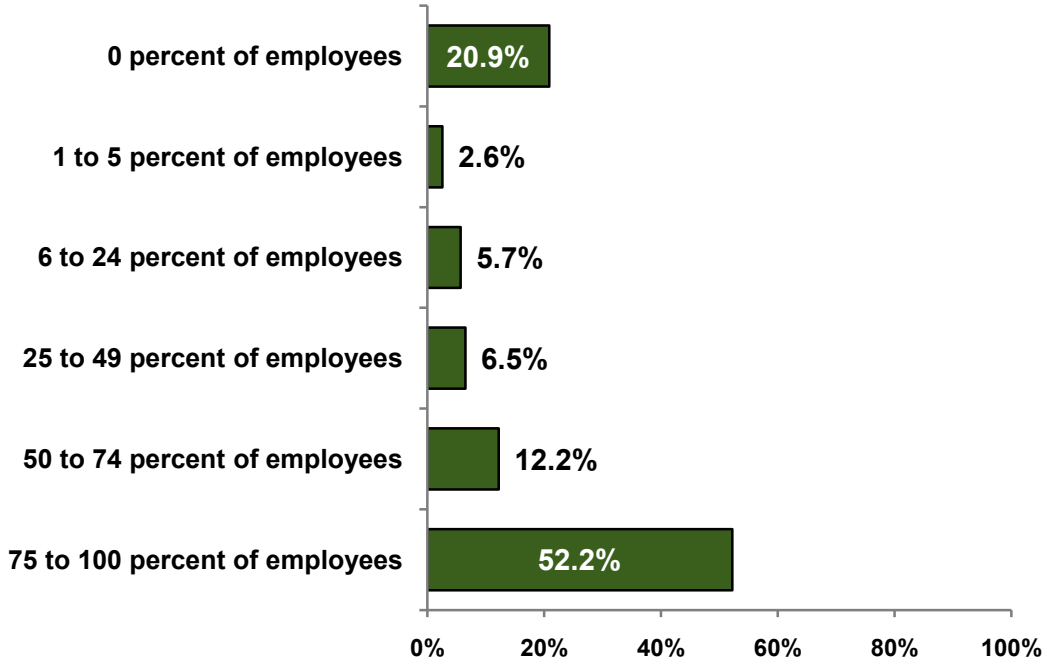
The majority of employees (51%) at Health IT firms are required to have at least some of the Health IT skills described in the previous section.

Figure 9: Employees Required to Have at Least Some HEALTH IT Skills



Fifty-two percent of Health IT firms report that three-quarters or more of their employees have at least some of the Health IT skills discussed in the survey.

Figure 10: Percentage Breakdown of Employees Required to Have at Least Some Health IT Skills

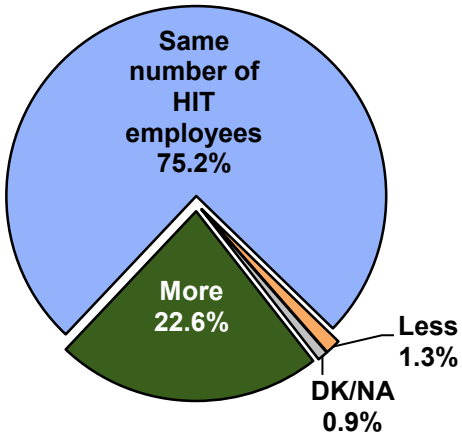


SHORT-TERM GROWTH EXPECTATIONS

Over the next 12 months, Health IT firms expect a 6.7 percent growth rate for their HEALTH IT employees (employees required to have at least some of the Health IT skills discussed in the survey). This is nearly twice the 3.4 percent 12-month growth rate expected for healthcare employees overall (all surveyed firms: Health IT and non-Health IT).

Twenty-three percent of Health IT firms expect to increase the number of Health IT employees over the next year and only one percent of firms expect fewer. Three out of four firms expect to maintain Health IT employment levels.

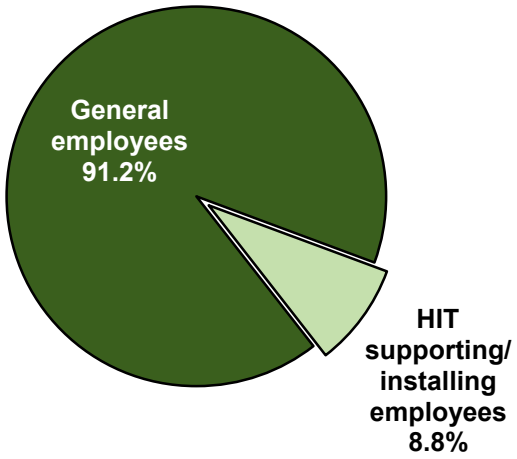
Figure 11: More or Less Health IT Employees in 12 Months



EMPLOYEE SUPPORT AND INSTALLATION OF HEALTH IT APPLICATIONS

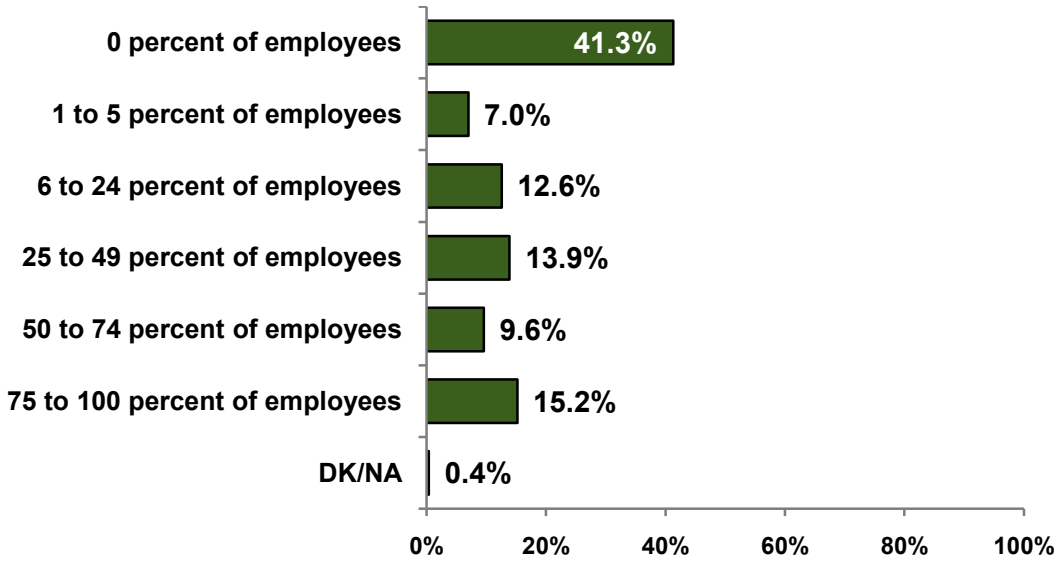
Whereas 51 percent of employees are required to have at least some Health IT skills, only nine percent of employees[7] at Health IT firms spend at least half their time *supporting or installing* Health IT applications.

Figure 12: Employees Spending at Least Half Their Time Supporting or Installing Health IT Applications



Forty-one percent of firms do not have any employees spending at least half their time supporting or installing Health IT applications.

Figure 13: Percentage Breakdown of Employees Spending at Least Half Their Time Supporting or Installing Health IT Applications

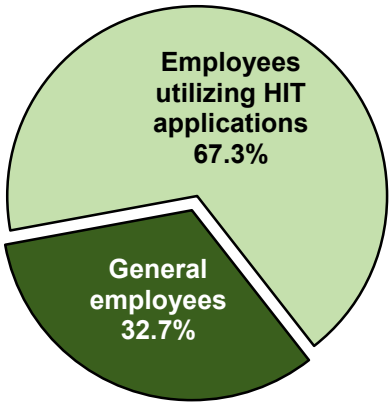


[7] The 188 firms that are current HEALTH IT users were asked for the number of employees that spend at least half of their time supporting or installing health information technology applications. The 42 firms considering HEALTH IT for the future were asked to estimate how many of their current employees they expect will spend at least half of their time supporting or installing health information technology applications.

EMPLOYEE USE OF HEALTH IT APPLICATIONS

Two out of three employees[8] at Health IT firms (67%) spend at least half their time *utilizing* HEALTH IT applications. This category likely includes overlap with the 51 percent of employees required to have at least some Health IT skills. It is important to note that employees utilizing Health IT applications may or may not also be performing Health IT job functions - they may simply be users of the technology within the workplace.

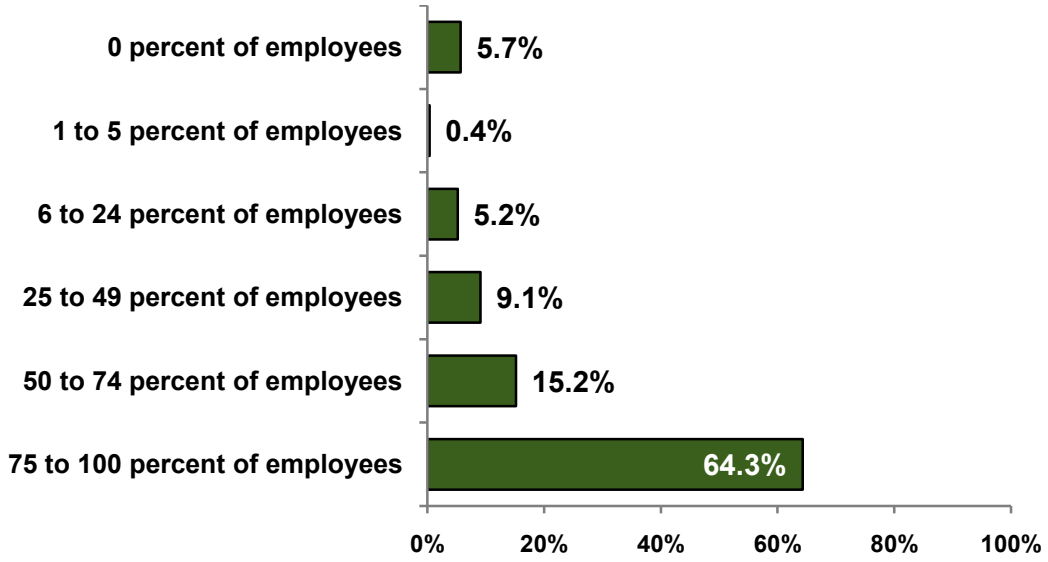
Figure 14: Employees Spending at Least Half Their Time Utilizing Health IT Applications



Sixty-four percent of firms report that 75 to 100 percent of their employees spend at least half their time utilizing Health IT applications.

[8] The 188 firms that are current Health IT users were asked for the number of employees that spend at least half of their time utilizing health information technology applications. The 42 firms considering HEALTH IT for the future were asked to estimate how many of their current employees they expect will spend at least half of their time utilizing health information technology applications.

Figure 15: Percentage Breakdown of Employees Spending at Least Half Their Time Utilizing Health IT



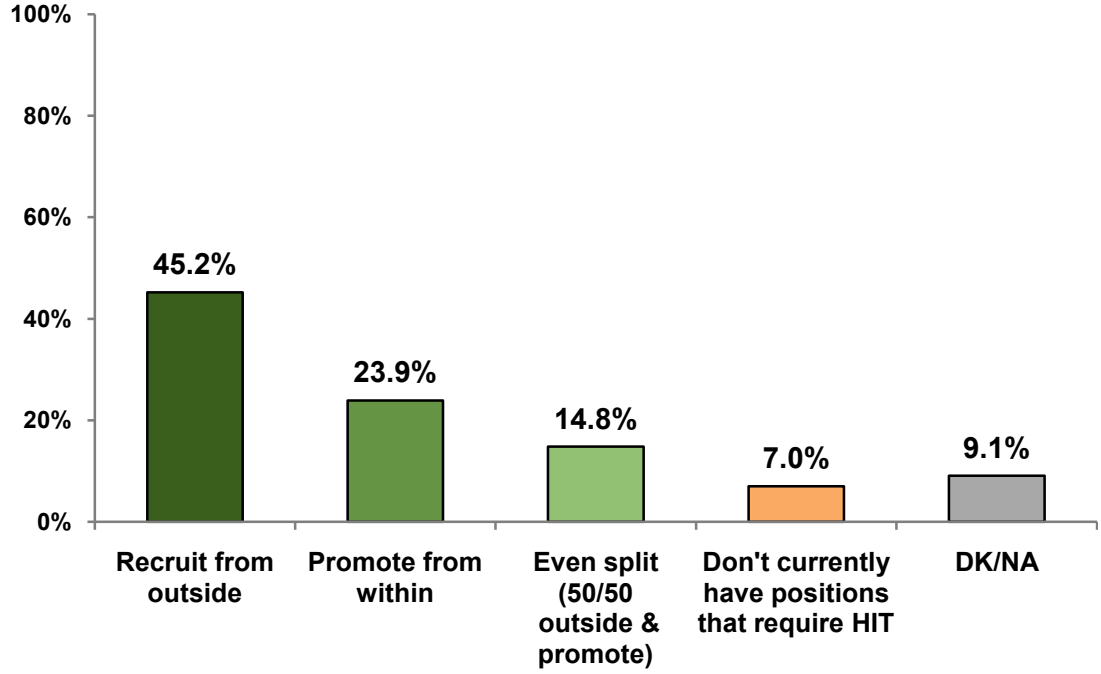
HIRING PRACTICES

When a position becomes available that requires Health IT skills, firms are most likely to recruit from outside (45%). Twenty-four percent promote employees from within and 15 percent report an even split between recruiting from outside and promoting from within their organization.

Sixteen percent of Health IT firms either do not currently have positions that require Health IT skills (7%) or did not know or declined to state their hiring practices for this question (9%).

As one might expect, firms considering Health IT for the future were more likely than those currently using Health IT to not currently have any Health IT positions or indicate that they did not know (24% vs. 14%).

Figure 16: Hiring Practices for Health IT Positions

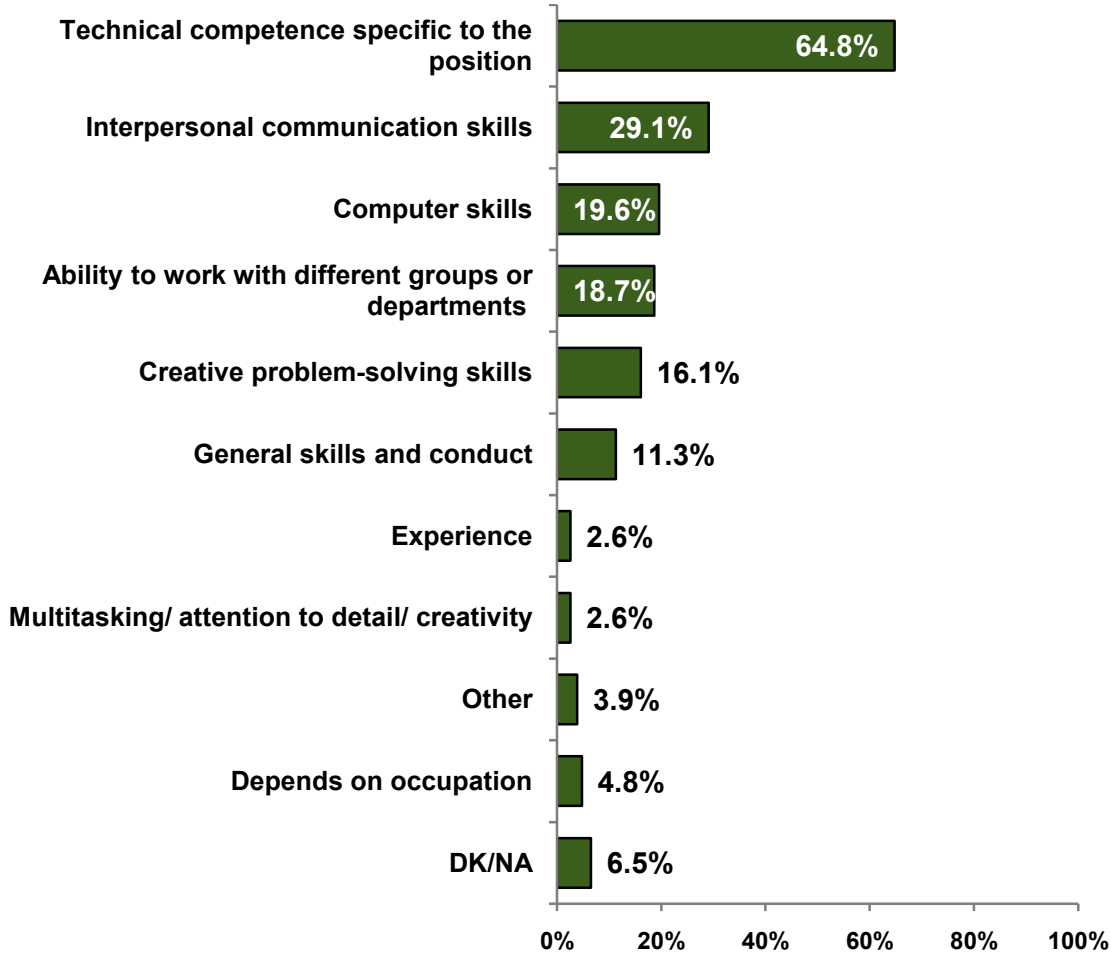


IMPORTANT SKILLS FOR NEW HIRES

When asked to reveal the most important skills among individuals that their organization will hire for work in Health IT, "Technical competence specific to the position" was by far the most important skill for new Health IT hires (65%).

"Interpersonal communication skills" (29%), "Computer skills" (20%), "Ability to work with different groups or departments" (19%), and "Creative problem-solving skills" (16%) were also reported as important skills for new hires.

Figure 17: Most Important Skills for Health IT New Hires[9]



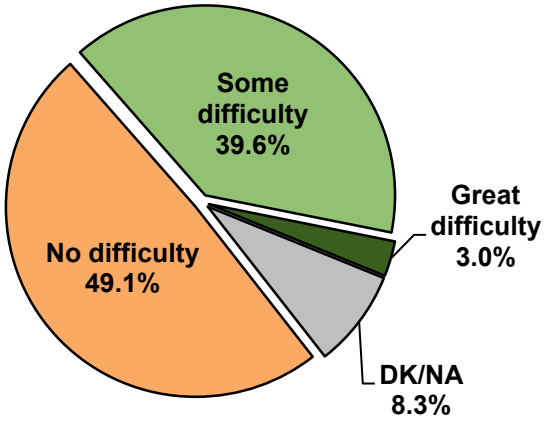
[9] For this question, respondents were free to mention multiple responses; therefore, the percentages in the figure total more than 100 percent.

DIFFICULTY HIRING AND OUTSOURCING

Forty-nine percent of Health IT firms do not have any difficulty finding new workers or developing current workers who can effectively use Health IT, 43 percent have at least some difficulty (3% "Great difficulty," 40% "Some difficulty"), and eight percent did not know or declined to state.

Firms with 11 or more employees were more likely to report difficulty finding new workers or developing current workers who can effectively use Health IT than firms with ten or fewer employees (56% vs. 36%).

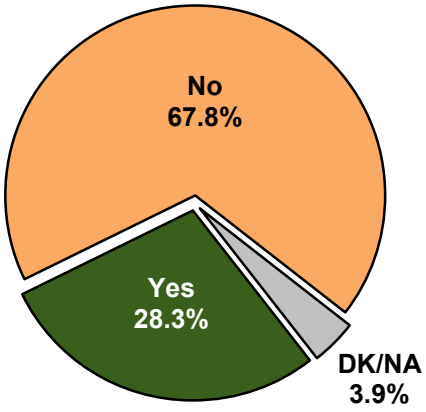
Figure 18: Difficulty Hiring New Health IT Workers or Developing Current Workers



In the last 12 months, 28 percent of Health IT firms have outsourced work to vendors that are supporting the development, installation, or training of Health IT technology applications.

The majority (54%) of firms that have outsourced their Health IT work reported difficulty finding new workers or developing current workers who can effectively use Health IT.

Figure 19: Health IT Outsourcing in the Last 12 months



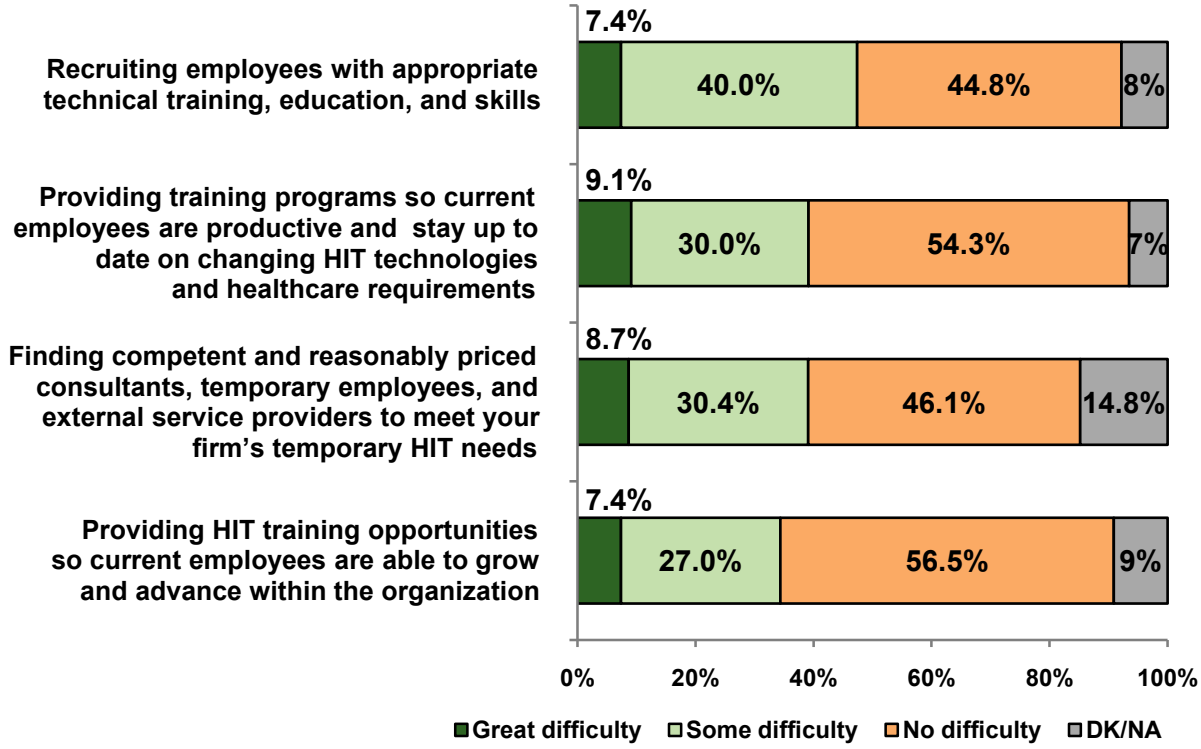
WORKFORCE CHALLENGES

The majority of Health IT firms did not express difficulty with any of the four workforce issues presented (either responding with “No difficulty” or “DK/NA”).

Forty-seven percent of Health IT firms have difficulty “Recruiting employees with appropriate technical training, education, and skills” (7% “Great difficulty” and 40% “Some difficulty”).

Thirty-nine percent of firms report difficulty “"Providing training programs so current employees are productive and stay up-to-date on changing Health IT technologies and healthcare requirements" (9% “Great difficulty” and 30% “Some difficulty”) and “"Finding competent and reasonably priced consultants, temporary employees, and external service providers to meet (their) firm’s temporary Health IT needs” (9% “Great difficulty” and 30% “Some difficulty”).

Figure 20: Workforce Challenges

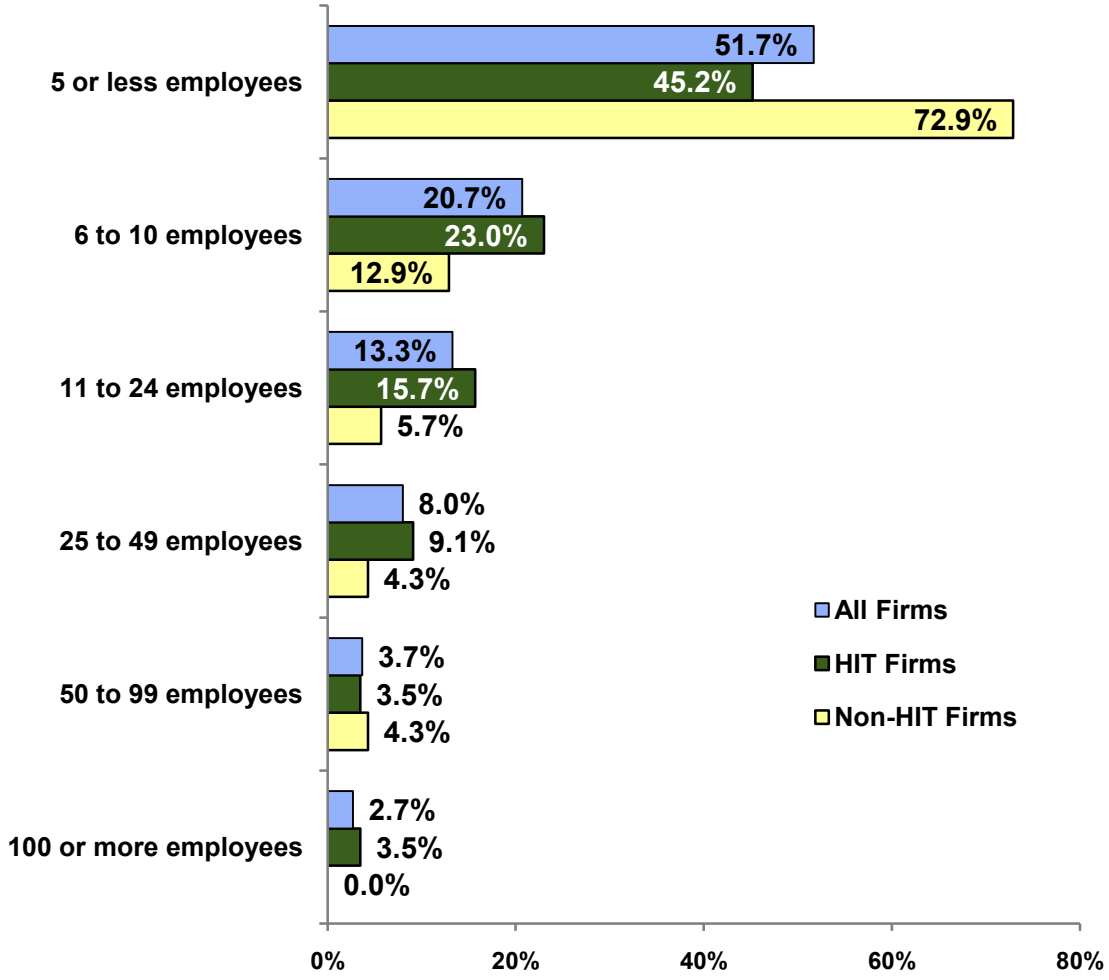


HEALTH IT AND NON-HEALTH IT FIRM PROFILES

The majority of healthcare firms surveyed (52%) have five or less employees. Although the plurality of both Health IT and non-Health IT firms have five or less employees, a much higher percentage of non-Health IT firms are in this category (73% vs. 45%).

The average number of employees at the surveyed Health IT firms is 28.73 (median of 6) compared with 8.09 at non-Health IT firms (median of 3).

Figure 21: Size of Firms

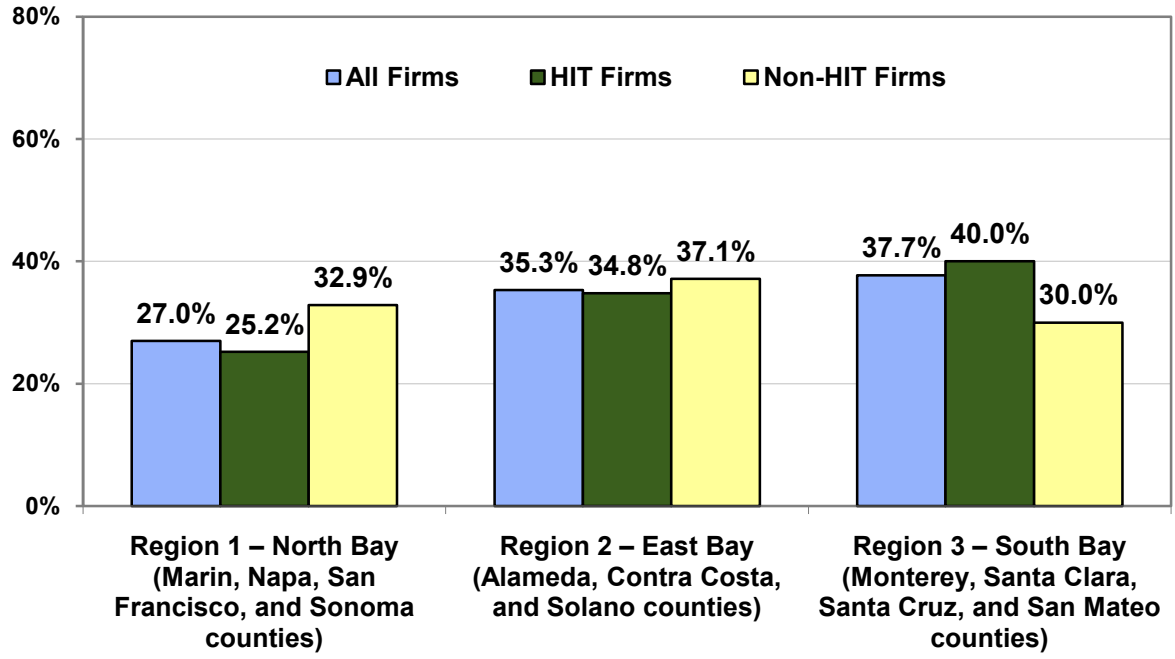


Overall, 38 percent of the healthcare firms surveyed are located in the South Bay, 35 percent East Bay, and 27 percent in the North Bay.

Compared to non-Health IT firms, Health IT firms are more likely to be located in the South Bay (40% vs. 30%).

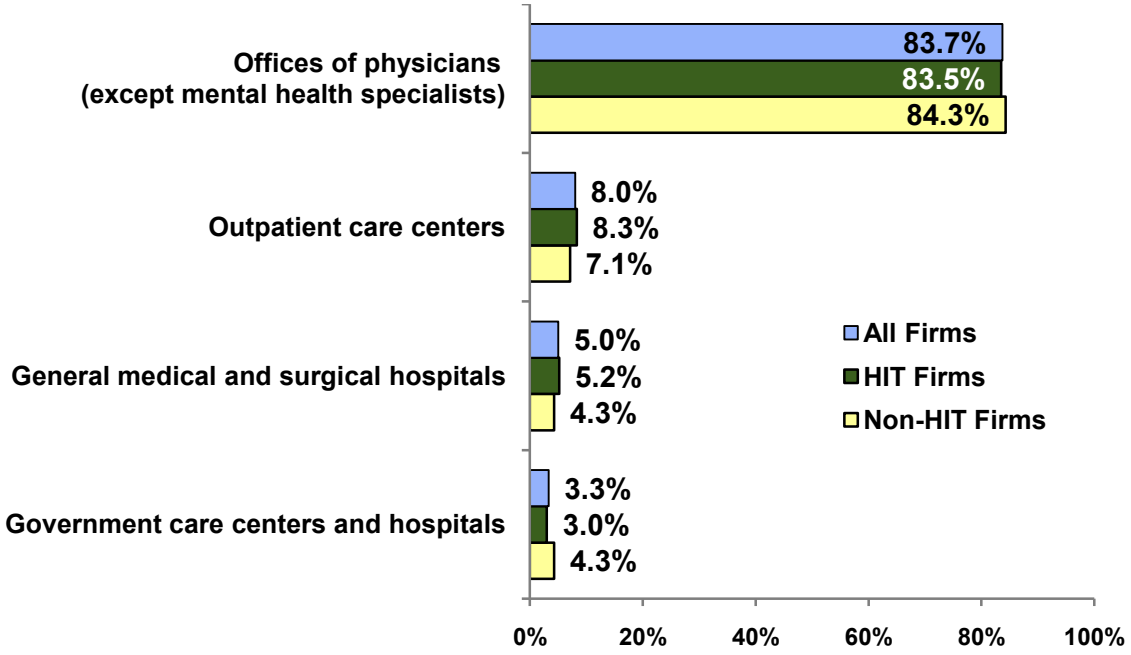
Within Health IT firms, a higher percentage of those currently using Health IT can be found in the East Bay as compared with those considering Health IT for the future (38% vs. 21%). Comparatively, those considering Health IT for the future are most likely to be located in the South Bay (60% vs. 36%).

Figure 22: Location of Firms



The profile of Health IT and non-Health IT firms is consistent with the overall breakdown of firms by sector. However, within Health IT firms, 21 percent of those considering HealthIT for the future are classified as outpatient care centers compared with five percent among those currently using Health IT.

Figure 23: Industry Composition of Firms



REGIONAL IMPLICATIONS

In April 2010, the Bay Area Community College Consortium (BACCC) convened Community Colleges and Workforce Investment Boards in the region to discuss shared interests regarding Health IT. Seven areas for possible future collaboration were identified. Of these seven areas, the group identified greater understanding of Health IT in general as well as Health IT labor market needs as the most important for further research.

This study, led by the Health Workforce Initiative (California Community College Chancellor's Office Economic and Workforce Development Program) and funded in part by the WIB-Community College Project, is a result of that interest. Specifically, this report addresses the skill requirements and deficiencies related to Health IT occupations and workforce categories with healthcare employers. The findings outlined in this report are intended to help colleges better understand how healthcare jobs are changing due to the introduction of information technology in the workplace, and to suggest how to incorporate these skills into current allied health training and education programs.

At this time, it does not appear that new training and education programs are needed. This is because the research indicates that Health IT is not creating significant net new jobs, but rather is changing the skill profiles of existing workers in the healthcare sector.

Employers identified the following occupational groupings as those most directly related to Health IT job functions: Managers and Administrators (44%); Administrative positions and other support staff (32%); LVN/Medical Assistants (22%); Doctors (17%) and Billers/Coders (17%). These findings suggest that Health IT is not creating large and emerging occupational categories, but is instead impacting traditional roles. Colleges, therefore, should focus their attention on providing contextualized learning and incorporating Health IT modules in their existing healthcare programs.

POSSIBILITIES FOR REGIONAL COLLABORATION

1. Colleges across the region with existing Allied Health programs could collaborate on developing Health IT curriculum to infuse and overlay onto existing programs. The research clearly illustrates the importance of Health IT skills for a majority of firms, so graduates from such programs would likely enjoy a competitive edge over other candidates. In the April 2010 marketplace meeting, there was strong interest in a regional approach to curriculum development. Ideas discussed included: 1) determining college programs that had already infused Health IT into existing curriculum and leverage the work already done (e.g., Cabrillo College recently developed and added a Skills Certificate in Electronic Health Records to its existing Medical Assistant Program that other colleges could replicate and refine as desired); 2) developing modules for faculty to incorporate into existing credit programs that could be used region-wide; and 3) developing a regional on-line Health IT module that could be self-paced and used by any interested college.

The Health Workforce Initiative (HWI) could lead this effort by developing the Health IT curriculum modules. Colleges could then incorporate these modules into their existing

allied health programs. This approach would have the added benefit of consistency among programs by relying on best-practice models.

2. HWI updates regarding the Information Technology Professionals in Health Care Project at Mission College funded by the US Department of Health and Human Services American Recovery and Reinvestment Act of 2009 would provide significant benefits to the region's education and training providers. Mission College is a member of the Western Region's Community College Consortia to Educate Information Technology Professionals in Health Care. This project aims to provide Health IT training in the Bay Area during the two-year pilot from 2010 to 2012. Currently Mission College is training for three of the six job functions that were the focus of the employer survey:

1. Practice Workflow Information Redesign Specialist,
2. Implementation Support Specialist, and
3. Technical/Software Support Staff.

Information about the program can be found at: www.missioncollege.org/healthITgrant/ Curriculum developed as a result of this grant will be available to colleges sometime around summer or fall 2011.

3. The Bay Region HWI, with support from BACCC, should explore the interest in convening future marketplaces to continue regional collaboration around Health IT. This model would allow participating Colleges, WIBs and other stakeholders to drive the focus of regional collaboration where interests align.

4. BACCC, the Bay Region HWI, and regional WIBs could consider forming a regional Health Careers Partnership to collaborate with regional employers for the benefit of all 26 colleges and 14 WIBs in the region (and our respective constituents - students and dislocated workers). This would not supplant existing local work with industry, rather it would provide a mechanism to partner with industry to identify regional healthcare needs. It would also allow regional partners to leverage our considerable scale to address employers' needs while avoiding unnecessary and costly duplication.

APPENDIX A: METHODOLOGY

Data compiled for this report were drawn from both primary and secondary data sources. The table below provides a brief overview of the methodology utilized for the project.

Table 1: Overview of Project Methodology

Method	Secondary Research of the Healthcare Sector Using Existing Data Sources Telephone Survey of Healthcare Sector Firms
Number of Participants	300 Firms in the Healthcare Sector Completed a Telephone Survey
Field Dates for Primary Research	Telephone Survey: November 13 – December 13, 2010
Survey Universe	5,984 Healthcare Sector Firms in Alameda, Contra Costa, Marin, Napa, Santa Clara, Santa Cruz, San Francisco, San Mateo, Solano, and Sonoma Counties
Survey Margin of Error	The *maximum* margin of error for questions answered by all 300 respondents was +/- 5.51% at the 95% level of confidence.

SECONDARY RESEARCH

The healthcare industry is traditionally defined as NAICS 621 through 623. This study focused on three specific sectors within the healthcare industry most likely to utilize Health IT. Specifically, offices of physicians (except mental health specialists), general medical and surgical hospitals, and outpatient care centers. Below are the associated NAICS codes for each sector:

NAICS 621111 - Offices of Physicians (except Mental Health Specialists)

NAICS 622110 - General Medical and Surgical Hospitals

NAICS 6214 - Outpatient Care Centers

- NAICS 621410 - Family Planning Centers
- NAICS 621420 - Outpatient Mental Health and Substance Abuse Centers
- NAICS 621492 - Kidney Dialysis Centers
- NAICS 621493 - Freestanding Ambulatory Surgical and Emergency Centers
- NAICS 621498 - All Other Outpatient Care Centers

For purposes of this study, the following healthcare sectors were excluded: offices of physicians, mental health specialists; offices of dentists; offices of other health practitioners; medical and diagnostic laboratories; home health care services; other ambulatory health care services; psychiatric and substance abuse hospitals; specialty (except psychiatric & substance abuse) hospitals; and nursing and residential care facilities.

PRIMARY RESEARCH

A quantitative telephone survey of 300 healthcare employers in the 11-county Bay Area was conducted.

Survey Design

Through an iterative process, BW Research worked closely with the Health Workforce Initiative to develop a survey instrument that met all the research objectives of the study. In developing the survey instrument, BW Research utilized techniques to overcome known biases in survey research and minimize potential sources of measurement error within the survey.

Sampling Method

Records were purchased for all healthcare firms within the three sectors of interest for the study with telephone numbers in Alameda, Contra Costa, Marin, Napa, Santa Clara, Santa Cruz, San Francisco, San Mateo, Solano, and Sonoma counties. The list of firms was stratified based on sector, size, and region and surveys were conducted from a representative sampling of firms across those key variables.

Data Collection

Prior to beginning data collection, BW Research conducted interviewer training and also pre-tested the survey instrument to ensure that all the words and questions were easily understood by respondents. Telephone interviews were generally conducted from 9:00 am to 4:30 pm Monday through Friday. The data collection period was November 13 through December 13, 2010.

A Note about Margin of Error and Analysis of Sub-Groups

The overall margin of error for the survey, at the 95 percent level of confidence, is between +/- 3.31 percent and +/- 5.51 percent (depending on the distribution of each question) for questions answered by all 300 respondents. For questions only asked of the 230 HEALTH IT firms, the margin of error is between +/- 3.78 percent and +/- 6.30 percent, at the 95 percent level of confidence.

It is important to note that analysis of sub-groups (such as difficulty hiring by firm size) will have a margin of error greater than +/- 5.51 or 6.30 percent, with the exact margin of error dependent on the number of respondents in each sub-group.

APPENDIX B: TOPLINES

[bw] RESEARCH PARTNERSHIP

11 County Bay Area
January 2011

Health Information Technology Survey (n=300)

Introduction:

[24 employees or less]
Hello, my name is _____. May I please speak to a manager or a person who oversees or coordinates technology at [organization]?

[25 employees or more]
Hello, my name is _____. May I please speak to a manager or a person who oversees or coordinates health information technology at [organization]?

[IF RESPOND THAT DON'T HAVE IN-HOUSE IT OR Health IT]
May I please speak to the person who supervises the outsourcing of technology/health information technology or the person who coordinates technology/health information technology with your corporate office?

Hello, my name is _____ and I'm calling on behalf of the **California Community Colleges**, which would value your participation in a brief study that will help address your future organization needs for trained and educated employees.

(If needed): The survey should take approximately ten minutes of your time. By answering this survey, you can help the community colleges develop the appropriate type of training that will prepare the employees you will be looking for in the future.

(If needed): This survey has been commissioned by the California Community Colleges, which are committed to developing the regional workforce. The survey is being conducted by BW Research, an independent research organization.

(If needed): Your individual responses will **not** be published; only aggregate information will be used in the reporting of the survey results.

PLEASE NOTE TRADITIONAL ROUNDING RULES APPLIED
NOT ALL PERCENTAGES WILL EQUAL EXACTLY 100%

SECTION 1 - Organization-Related Questions

I'd like to begin by asking you a few general questions about the employees at your location. Please answer for your physical location and not your corporate headquarters or any other location.

1. Including all full-time and part-time employees, how many **permanent and temporary** employees work at your location?

Total permanent and temporary employees	Mean	More Conservative Mean[10]	Median
7,180	23.93	16.21	5.00

Breakdown:

52%	5 or less permanent and temporary employees
21%	6 to 10 permanent and temporary employees
13%	11 to 24 permanent and temporary employees
8%	25 to 49 permanent and temporary employees
4%	50 to 99 permanent and temporary employees
1%	100 to 249 permanent and temporary employees
1%	250 to 499 permanent and temporary employees
1%	500 to 999 permanent and temporary employees
0.3%	1,000 or more permanent and temporary employees

[10] With outliers removed (one firm with 850 and one with 1,500 employees).

2. If you currently have [TAKE Q1 # OR INTERVAL ESTIMATE] full-time and part-time **permanent and temporary** employees at your location, how many more or less employees do you expect to have at your location 12 months from now? [IF UNABLE TO PROVIDE NUMBER, PROMPT FOR A RANGE AND RECORD INTERVAL]

19%	More [record #_____]
3%	Less [record #_____]
78%	(DON'T READ) Same number of employees
0.3%	(DON'T READ) DK/NA

Expected Employment in 12 months
(Calculated by only examining employers with both current and projected data)

	Current	12 months
n	299	299
Mean	19.00	19.65
Median	5.00	6.00
Total Employees	5,680	5,874
New Employees		**194**
% Growth		**3.4%**

[If amount differs by 10% or more in either direction, ask:]
Just to confirm, you currently have ____ employees and you expect to have _____ (more/less) employees, for a total of ____ employees 12 months from now.

SECTION 2 - HEALTH IT Profile

Now I want to ask more specifically about your firm's use of health information technologies or what is also referred to as Health IT. **The term "Health Information Technologies" or Health IT includes new technologies in healthcare such as electronic medical records, electronic billing, and telemedicine, to name a few.**

3. Does your organization use health information technologies, including electronic health records, electronic billing, or telemedicine?

63%	Yes
14%	No, but we are considering healthcare information technologies in the future
22%	No, and we do not expect to be adopting any health information technologies in the future
1%	(Don't Read) DK/NA

[IF Q3 = 1 OR 2 ASK Q4 OTHERWISE SKIP TO Q15]

4. Of the [TAKE Q1 #] permanent and temporary employees at your location, approximately how many (IF Q3 = 1 USE "spend") (IF Q3 = 2 USE "do you expect will spend") at least half of their time ***supporting or installing*** health information technology applications? [RECORD NUMBER - IF THEY DO NOT PROVIDE A NUMBER, OFFER THE CATEGORIES]

   Percentages among firms using healthcare information technologies or considering them (n=230)

   Breakdown:

89%	5 or less employees
5%	6 to 10 employees
3%	11 to 24 employees
2%	25 to 49 employees
0.4%	50 to 99 employees
0.4%	250 to 499 employees
0.0%	500 or more employees
0.4%	(Don't Read) DK/NA

41%	0 percent of employees
7%	1 to 5 percent of employees
13%	6 to 24 percent of employees
14%	25 to 49 percent of employees
10%	50 to 74 percent of employees
15%	75 to 100 percent of employees
0.4%	DK/NA

Statistics among firms using healthcare information technologies or considering them and provided data at this question

	Total employees	Employees spending half their time supporting or installing Health IT applications
n	229	229
Mean	28.62	3.49
Median	6.00	1.00
Total Employees	6,555	800
% Employees spending half their time supporting or installing Health IT applications		**12.2%**

More Conservative Statistics (With one firm removed that has 250 of their 300 employees spending at least half their time supporting or installing Health IT applications)

	Total employees	Employees spending half their time supporting or installing Health IT applications
n	228	228
Mean	27.43	2.41
Median	6.00	1.00
Total Employees	6,255	550
% Employees spending half their time supporting or installing Health IT applications		**8.8%**

5. Of the [TAKE Q1 #] permanent and temporary employees at your location, approximately how many (IF Q3 = 1 USE "spend") (IF Q3 = 2 USE "do you expect will spend") at least half of their time ***utilizing*** health information technology applications? [RECORD NUMBER - IF THEY DO NOT PROVIDE A NUMBER, OFFER THE CATEGORIES]

   Statistics among firms using healthcare information technologies or considering them (n=230)

   Breakdown:

58%	5 or less employees
17%	6 to 10 employees
13%	11 to 24 employees
7%	25 to 49 employees
3%	50 to 99 employees
0.4%	100 to 249 employees
1%	250 to 499 employees
0.4%	500 to 999 employees
0.4%	1,000 or more employees
0.0%	(Don't Read) DK/NA

6%	0 percent of employees
0.4%	1 to 5 percent of employees
5%	6 to 24 percent of employees
9%	25 to 49 percent of employees
15%	50 to 74 percent of employees
64%	75 to 100 percent of employees
0.0%	(Don't Read) DK/NA

	Total employees	Employees spending half their time utilizing Health IT applications
n	230	230
Mean	28.77	21.94
Median	6.00	4.00
Total Employees	6,617	5,046
% Employees spending half their time utilizing Health IT applications		**76.3%**

More Conservative Statistics (With two firms removed having 450 employees or more that account for 80% or more of their total employees spending at least half their time utilizing Health IT applications)

	Total employees	Employees spending half their time utilizing Health IT applications
n	228	228
Mean	20.16	13.58
Median	6.00	4.00
Total Employees	4,597	3,096
% Employees spending half their time utilizing Health IT applications		**67.3%**

6. What is your level of difficulty finding new workers or developing current workers who can effectively use the tools and applications associated with health information technology?

   Percentages among firms using healthcare information technologies or considering them (n=230)

   49% No difficulty
   40% Some difficulty
   3% Great difficulty
   8% (Don't Read) DK/NA

7. In the last 12 months, has your firm outsourced any work to vendors that are supporting the development, installation, or training of health information technology applications?

   Percentages among firms using healthcare information technologies or considering them (n=230)

   28% Yes
   68% No
   4% (Don't Read) DK/NA

The focus of this survey is to better understand the importance of Health IT skills to Healthcare employers.

We want to ask you about Health IT job functions or skills and not just their corresponding job titles. Think of your Health IT workers as those people in your organization who **deploy, manage, and use** Health IT infrastructure and systems as well as those that support the users.

8. [IF Q3 = 1:] For each of these Health IT related job functions I describe, please tell me if you currently have workers (either permanent or temporary) who are engaged in each job function.

   [IF Q3 = 2:] For each of these Health IT related job functions I describe, please tell me if you currently have, or expect to hire, workers (either permanent or temporary) for each job function.

   [BOTH:] And if so, will the job function be extremely important, important, or not too important for your organization over the next two years? [IF NEEDED: This is about skill sets and not necessarily about occupational titles].

   [IF Q3 = 1:] Do you have workers at your location who are: _____

   [IF Q3 = 2:] Do you have, or expect to hire, workers at your location who are or will be: _____

   [BOTH] (IF YES:) Will the job function be extremely important, important (if needed: just important), or not too important for your company over the next two years?

Percentages among firms using healthcare information technologies or considering them (n=230)

RANDOMIZE

	Extremely Important	Important	Not too Important	Don't Have Position	(DON'T) READ) DK/NA
A. Information management and workflow specialists - these individuals are not required to be licensed clinical professionals	20%	16%	4%	55%	5%
B. Clinicians or practitioners focused on information technology management and implementation	28%	13%	3%	53%	3%
C. Health IT support specialists - these individuals provide on-site support for Health IT systems as well as implementation of new systems	20%	16%	4%	58%	2%
D. Health IT managers - these individuals provide on-site management of Health IT systems including implementation and/ or operations of Health IT applications	25%	12%	5%	57%	1%
E. Technical support staff including use of software for Health IT applications – these individuals provide technical support for Health IT users	27%	13%	2%	54%	3%
F. Health IT trainers, these individuals design and/or deliver Health IT training programs	13%	11%	4%	70%	2%

After hearing more specific examples of Health IT job functions, I want to ask about your employees that currently require skills in these areas.

9. If you currently have [TAKE Q1 #] **permanent and temporary** employees at your location, how many are required to have at least some of the skills that were described? (Total entered for Q9 should not be more than Q1)

Statistics among firms using healthcare information technologies or considering them (n=230)

Total employees that require some Health IT skills	Mean	More Conservative Mean[11]	Median
3,883	16.88	9.57	3.00

Breakdown:

21%	No employees that require at least some Health IT skills
45%	1 to 5 employees that require at least some Health IT skills
14%	6 to 10 employees that require at least some Health IT skills
10%	11 to 24 employees that require at least some Health IT skills
7%	25 to 49 employees that require at least some Health IT skills
2%	50 to 99 employees that require at least some Health IT skills
1%	100 to 249 employees that require at least some Health IT skills
0.4%	250 to 499 employees that require at least some Health IT skills
0.4%	500 to 999 employees that require at least some Health IT skills
0.4%	1,000 or more employees that require at least some Health IT skills
0.0%	(Don't Read) DK/NA

21%	0 percent of employees require at least some Health IT skills
3%	1 to 5 percent of employees require at least some Health IT skills
6%	6 to 24 percent of employees require at least some Health IT skills
7%	25 to 49 percent of employees require at least some Health IT skills
12%	50 to 74 percent of employees require at least some Health IT skills
52%	75 to 100 percent of employees require at least some Health IT skills
0.0%	(Don't Read) DK/NA

[11] With outliers removed (one firm with 500 and one with 1,200 Health IT employees).

Statistics among firms using healthcare information technologies or considering them (n=230)

	Total employees	Employees required to have some Health IT skills
n	230	230
Mean	28.77	16.88
Median	6.00	3.00
Total Employees	6,617	3,883
% Employees required to have some Health IT skills		**58.7%**

More Conservative Statistics (With two firms removed that have 500 employees or more that are required to have some Health IT skills)

	Total employees	Employees required to have some Health IT skills
n	228	228
Mean	18.71	9.57
Median	6.00	3.00
Total Employees	4,267	2,183
% Employees required to have some Health IT skills		**51.2%**

10. If you currently have [TAKE Q9 #] **permanent and temporary** employees that are required to have at least some of the Health IT skills, how many more or less employees do you expect to have 12 months from now, that require at least some of the Health IT skills we have discussed? [REREAD JOB FUNCTIONS FROM Q8 IF NEEDED]? [IF UNABLE TO PROVIDE NUMBER, PROMPT FOR A RANGE AND RECORD INTERVAL]

    Percentages among firms using healthcare information technologies or considering them (n=230)

    23% More [record #_____]
    1% Less [record #_____]
    75% (DON'T READ) Same number of employees
    1% (DON'T READ) DK/NA

Expected Health IT Employment in 12 months
(Calculated by only examining employers with both current and projected data)

	Current	12 months
n	228	228
Mean	17.01	18.61
Median	3.00	4.00
Total Employees	3,879	4,243
New Employees		**364**
% Growth		**9.4%**

More Conservative Statistics (With two firms removed: one adding 100 with 50% growth and one adding 17 with 1700% growth)

	Current	12 months
n	226	226
Mean	16.28	17.37
Median	3.00	4.00
Total Employees	3,679	3,926
New Employees		**247**
% Growth		**6.7%**

Just to confirm, you currently have ____ employees that are required to have at least some of the HEALTH IT skills and you expect to have _____ (more/less) employees, for a total of ____ employees 12 months from now.

11. Can you identify the occupational titles at your firm that are directly related to the Health IT job functions we described? [IF NEEDED, REREAD THE JOB FUNCTIONS FROM Q8, MULTIPLE RESPONSES ALLOWED, PERCENTAGES WILL ADD TO MORE THAN 100%]

    Percentages among firms using healthcare information technologies or considering them (n=230)

44%	Managers and administrators
33%	Administrative and support staff
22%	LVN/ medical assistants
17%	Doctors
17%	Coders/ billing
15%	Technical specialists and analysts
12%	Physician assistant/ registered nurses
27%	None
3%	DK/NA

12. When a position becomes available that requires Health IT skills in your firm, do you more often hire from outside or promote from within the company? (IF NEEDED)

    Percentages among firms using healthcare information technologies or considering them (n=230)

24%	Promote from within
15%	Even split (50-50 outside & promote)
45%	Recruit from outside
7%	(DON'T READ) Do not currently have positions that require Health IT
9%	(DON'T READ) DK/NA

Now, I'd like to ask about general skills that you look for among those individuals at your firm that are responsible for health information technologies related work.

13. Thinking in general about individuals in your organization that you will hire for work in Health IT, what skills would you say are **most important** for new hires?

    (IF NEEDED: For this question, I would just like your general perception about which skills are most important for individuals you will hire across Health IT occupations at your organization) [OPEN ENDED RESPONSE, MULTIPLE RESPONSES ALLOWED, PERCENTAGES WILL ADD TO MORE THAN 100%]

    Percentages among firms using healthcare information technologies or considering them (n=230)

65%	Technical competence specific to the position
29%	Interpersonal communication skills
20%	Computer skills
19%	Ability to work with different groups or departments
16%	Creative problem-solving skills
11%	General skills and conduct
3%	Multitasking/ attention to detail/ creativity
3%	Experience
4%	Other
5%	Depends on occupation
7%	DK/NA

14. Now, I'm going to read a list of issues facing employees that are working in health information technologies. Please tell me how much difficulty your organization faces in addressing each of these issues.

    Here's the (first/next) one (INSERT ITEM) _____. Please tell me whether your organization has no difficulty, some difficulty, or great difficulty in dealing with this issue.

    Percentages among firms using healthcare information technologies or considering them (n=230)

RANDOMIZE	No difficulty	Some difficulty	Great difficulty	(DON'T READ DK/NA
A. Providing training programs so current employees are productive and stay up to date on changing Health IT technologies and healthcare requirements	54%	30%	9%	7%
B. Providing Health IT training opportunities so current employees are able to grow and advance within the organization	57%	27%	7%	9%
C. ***Recruiting*** employees with appropriate technical training, education, and skills	45%	40%	7%	8%
D. Finding competent and reasonably priced consultants, temporary employees, and external service providers to meet your firm's temporary Health IT needs	46%	30%	9%	15%

Before we finish, I'd like to ask you a general question and verify your contact information.

15. Are you interested in receiving future information from the community colleges, including a report on the findings of the research?

    (n=300)

    33% Yes
    66% No
    1% (DON'T READ) DK/NA

Since it sometimes becomes necessary for the project manager to confirm responses to certain questions, I would like to verify your contact information.

First and Last Name of Respondent_____

Position of Respondent_____

Name of Organization_____

Phone of Respondent_____

Email of Respondent_____

Address of Organization (including City)_____

Those are all the questions I have.
Thank you very much for your time.

Date of Interview _____

Time of Interview_____

Name of Interviewer_____

County _____

NAICS_____

Region:

(n=300)

27%	Region 1 – North Bay (Marin, Napa, San Francisco, and Sonoma Counties)
35%	Region 2 – East Bay (Alameda, Contra Costa, and Solano Counties)
38%	Region 3 – South Bay (Monterey, Santa Clara, Santa Cruz, and San Mateo Counties)