# Healthcare CIOs Fear IT Staffing Shortages will Affect EHR Implementations and Other Projects

Retaining staff becomes key in CIOs' efforts to successfully install systems

## Executive Summary

Healthcare CIOs who responded to a recent survey by the College of Healthcare Information Management Executives (CHIME) predict that IT staffing shortages will put projects at risk and negatively impact their chances to implement electronic health records successfully.

More than 60 percent of responding CIOs reported that IT staffing deficiencies will possibly (51 percent) or definitely (10 percent) affect their chances to implement an EHR and receive stimulus funding.

Additionally, CIOs express growing concern about retaining current staff as pressures mount to quickly implement clinical systems. The most glaring need for healthcare organizations is for trained personnel who can implement clinical records software – more than 70 percent of respondents reported that their organizations lack staff to implement clinical applications.

In addition, CIOs reported varying degrees of difficulty in filling staff positions. Surprisingly, respondents from smaller hospitals reported the lowest percentage of open positions. In general, the larger the healthcare organization, the greater the percentage of IT staff positions that were open.

To meet immediate needs, CIOs reported that they were planning to use various strategies, and the use of third-party consultants was far and away the most frequently mentioned strategy, listed by more than a third of respondents. CIOs also said they were planning to hire from within their organizations and train those hires in healthcare IT, or were using recruiters to find qualified staff.

Healthcare CIOs reported that their organizations are trying a variety of approaches to counteract shortages. Slightly more than half of the respondents said they are requesting budget increases to address shortages, but for most respondents, spending increases are expected to be minimal in 2011.

Regarding staff retention, a large number of respondents indicated that their organizations were planning to use alternative activities and programs to keep current IT staff. Most commonly mentioned approaches included flexible work schedules and telecommuting, employee recognition programs and providing for staff education and development.

## Survey Background

The lack of sufficient IT staffing for the healthcare industry is a widely acknowledged concern for the nation as healthcare organizations attempt to rapidly implement clinical systems, especially to meet deadlines associated with the HITECH provisions of ARRA.

Beginning in 2011, eligible hospitals and healthcare professionals can apply for additional reimbursement for implementing electronic health records. However, because only a small percentage of hospitals and professionals have such information technology in place, many organizations are expected to try to implement the technology quickly over the next few years.

These efforts could be hurt by an immediate lack of IT personnel in the healthcare industry. Some estimates suggest there is a shortage of 50,000 qualified HIT personnel. The Office of the National Coordinator for Health Information Technology has implemented four separate workforce development programs to address the issue.
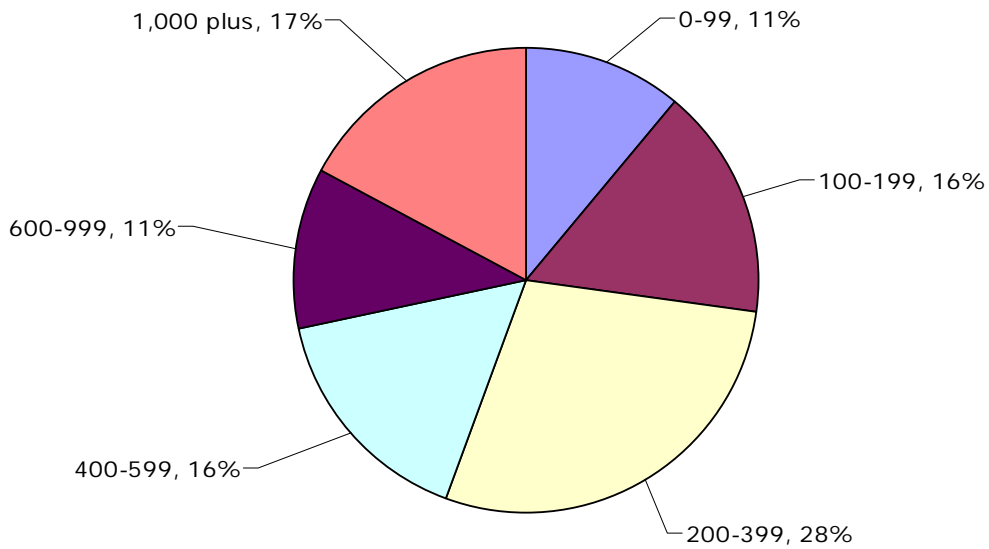
## Survey Methodology

CHIME developed its survey to determine CIOs members' current perceptions of IT staffing shortages; to ascertain how such shortages would affect their deployment of electronic health records and other IT projects; and how they are attempting to bolster their workforce at this critical time.
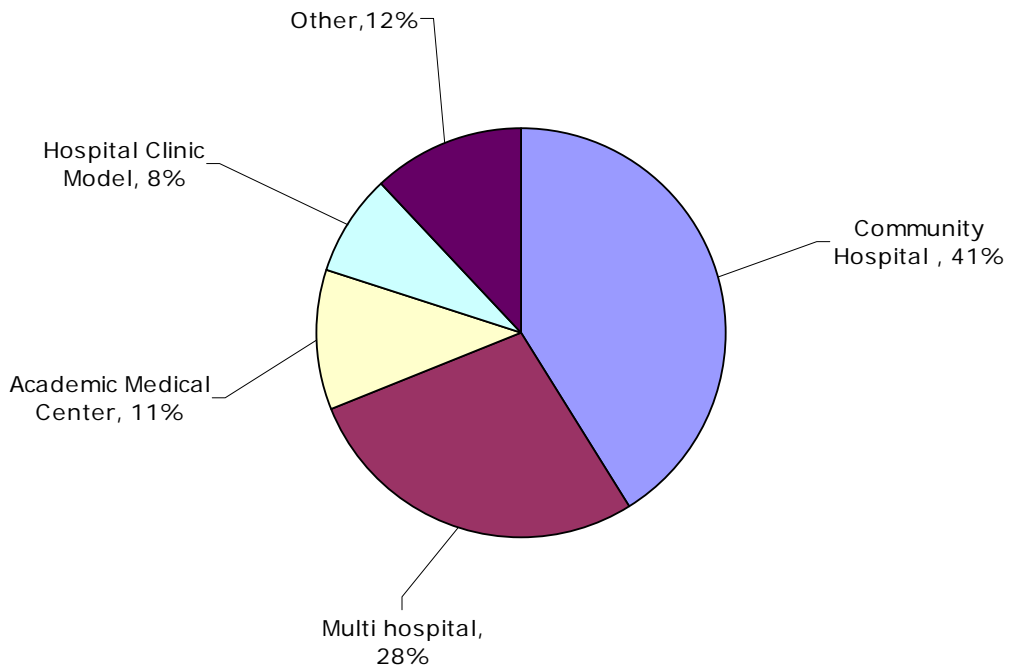
CHIME's membership comprises more than 1,400 chief information officers and other senior healthcare IT executives from a variety of provider organizations, including large hospital systems, community hospitals, for-profit hospitals, and small or rural facilities. CHIME members typically oversee the information services department within their organizations and are leaders in implementing EHRs and other clinical systems.

Some 182 members, or about 13 percent of CHIME's membership, responded to the Internet-based survey, which was available to members for two weeks through September 16. The charts below detail percentages of respondents, both by bed size and type of healthcare organization (Graphs 1 and 2).

**Graph 1. Survey respondents by bed size**



1,000 plus, 17%

0-99, 11%

100-199, 16%

600-999, 11%

400-599, 16%

200-399, 28%

**Graph 2. Survey respondents by provider type**



Other, 12%

Hospital Clinic Model, 8%

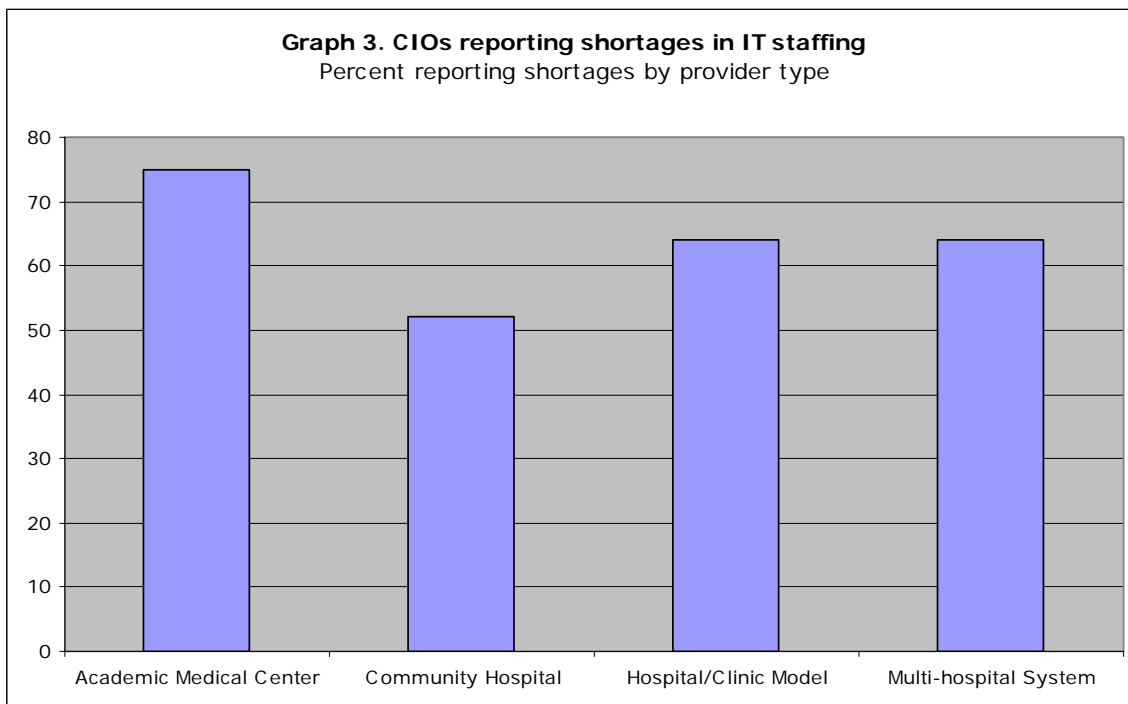Community Hospital, 41%

Academic Medical Center, 11%

Multi hospital, 28%

## Survey Results

## Extent of staffing shortages

A majority (59 percent) of healthcare CIOs responding to the survey said their organizations currently were experiencing shortages on their IT staffs.

CIOs' responses varied significantly depending on the type and size of their organization. For example, respondents from community hospitals, on a percentage basis, were least likely to report staff shortages, compared with other provider types (see Graph 3).



**Graph 3. CIOs reporting shortages in IT staffing**
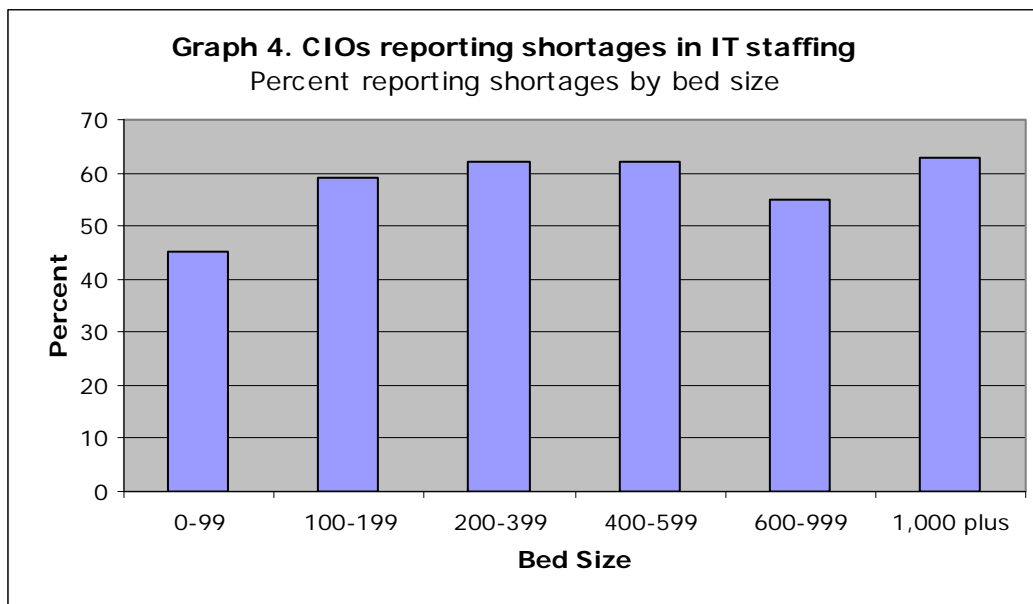Percent reporting shortages by provider type

When asked to estimate the percentage of IT positions currently open on their staffs, survey respondents again reported wide variations. For example, 16 percent of those responding to the survey said they currently had no open positions and were fully staffed. The largest response came from 43 percent who reported a vacancy rate of zero to 5 percent of their staff (see Table 1).

| Table 1. Percent of open IT staff positions (all respondents) | |
| --- | --- |
| **% of positions open** | **Percent** |
| No open positions | 16 |
| Less than 5 percent | 43 |
| 5 to 9 percent | 16 |
| 10 to 20 percent | 19 |
| 20 percent or more | 7 |

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As seen in Table 2 below, some 29 percent of respondents from community hospitals reported that they had no openings and were fully staffed, while another 40 percent reported that fewer than 5 percent of their IT staff positions were currently open. By contrast, only 35 percent of academic medical centers reported fewer than 5 percent staff vacancies, and none of their respondents said they had no openings.

| Table 2. Comparison of IT staff shortages by provider type | | | | | |
|---|---|---|---|---|---|
| % of respondents estimating percentages of IT positions open on their staff | | | | | |
| Type of organization | No openings | < 5% | 5% to 9% | 10% to 20% | 20%+ |
| Academic Medical Center | 0 | 35 | 30 | 20 | 15 |
| Community Hospital | 29 | 40 | 8 | 15 | 8 |
| Hospital/Clinic Model | 7 | 47 | 13 | 33 | 0 |
| Multi-hospital System | 4 | 52 | 22 | 22 | 0 |

In terms of bed size, respondents from smaller hospitals were least likely to report that they had IT staff shortages (see Graph 4 below for comparisons by bed size).



Graph 4. CIOs reporting shortages in IT staffing
Percent reporting shortages by bed size

The following table details percentages of open full-time equivalent positions by CIOs from organizations of different bed sizes. The results re-emphasize findings that smaller organizations were more likely to be fully staffed, while larger organizations generally had higher percentages of IT staff openings.

These findings may appear counterintuitive, since many industry experts have predicted that smaller organizations would have more trouble filling IT positions. However, smaller hospitals are more likely to be located in non-competitive or isolated locations, while larger organizations

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are more likely to be located in metropolitan areas that have multiple healthcare organizations, which increases demand for existing IT staff in these locations.
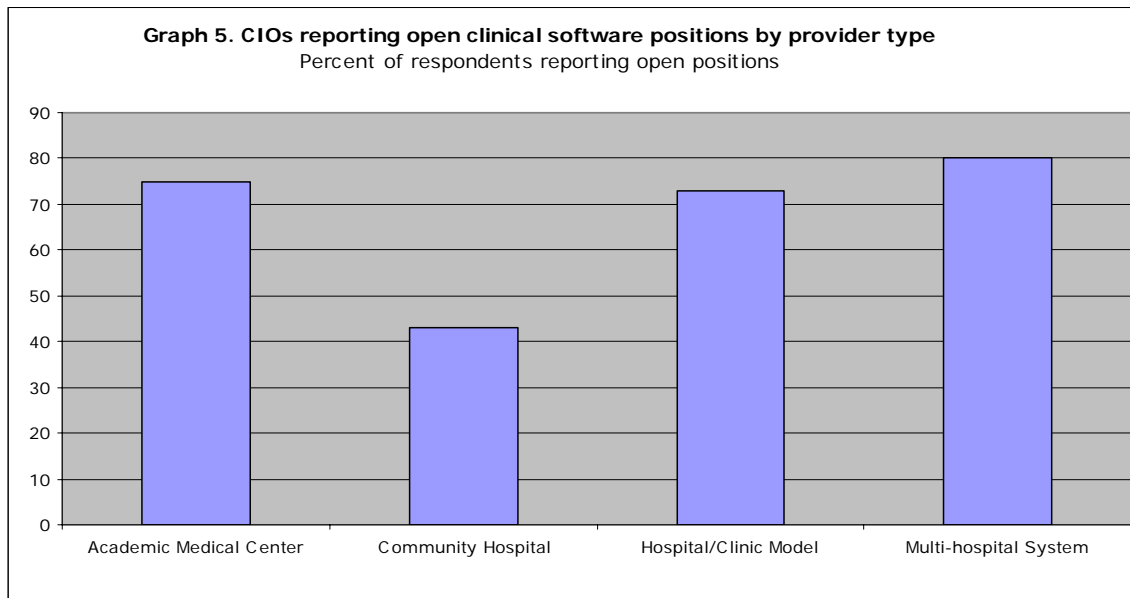
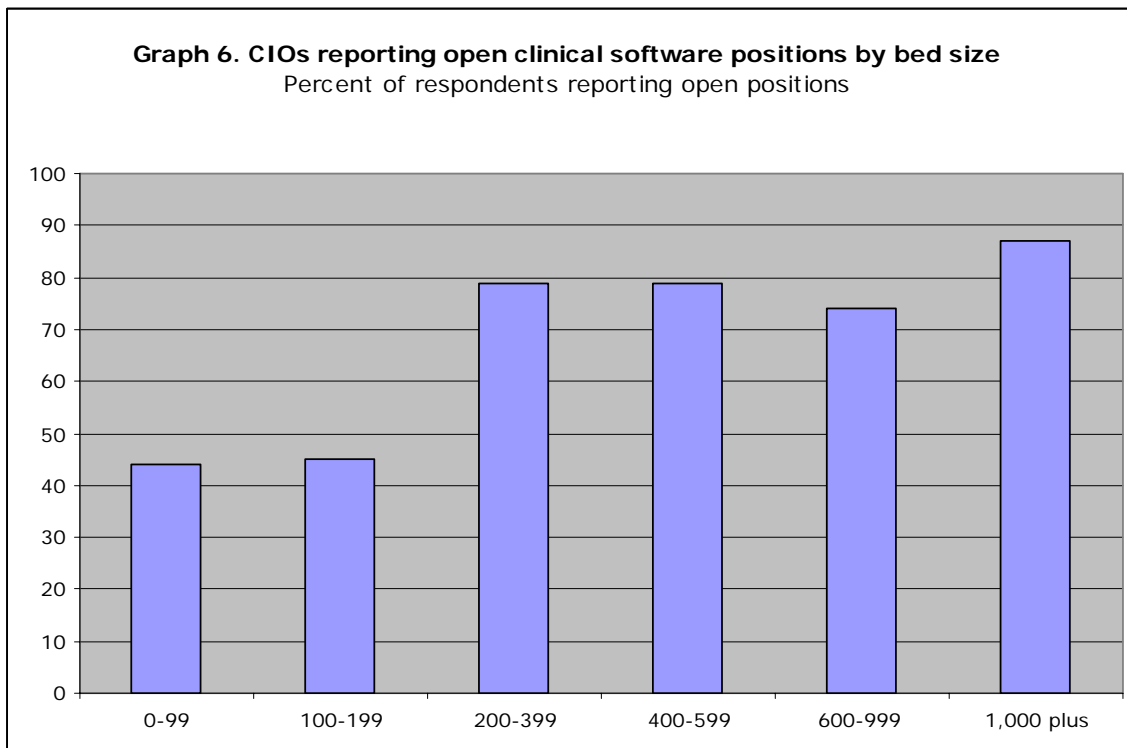| Table 3. Comparison of IT staff shortages by bed size % of respondents estimating percentages of IT positions open on their staffs | | | | | |
|---|---|---|---|---|---|
| Bed Size | No openings | < 5% | 5% to 9% | 10% to 20% | 20%+ |
| 0-99 beds | 32 | 26 | 5 | 16 | 21 |
| 100-199 beds | 31 | 31 | 10 | 17 | 10 |
| 200-399 beds | 16 | 45 | 10 | 24 | 6 |
| 400-599 beds | 7 | 58 | 7 | 21 | 7 |
| 600-999 beds | 10 | 55 | 30 | 5 | 0 |
| 1,000+ beds | 3 | 38 | 38 | 22 | 0 |

## Types of positions that are open

By far, CIOs who responded to the survey said the biggest gaps on their staffs were for clinical software implementation and support staff. These types of positions include project managers, analysts, application coordinators, report writers, trainers, informatics staff and technical writers. Some 71 percent of CIOs who responded to this question said they had open positions in clinical software implementation and support.

As shown in Graph 5 below, respondents from community hospitals were less likely to report openings for clinical software staff, while in excess of 70 percent of respondents from other types of provider organizations acknowledged openings for clinical software staff.

**Graph 5. CIOs reporting open clinical software positions by provider type**
Percent of respondents reporting open positions

Respondents from hospitals in bed size categories in excess of 200 beds were the most likely to report openings in clinical software positions. Some 75 percent or more of respondents from those bed size categories reported open clinical software positions. By contrast, only 45 percent of respondents from the two smallest bed size categories reported such openings (see Graph 6 below).

**Graph 6. CIOs reporting open clinical software positions by bed size**
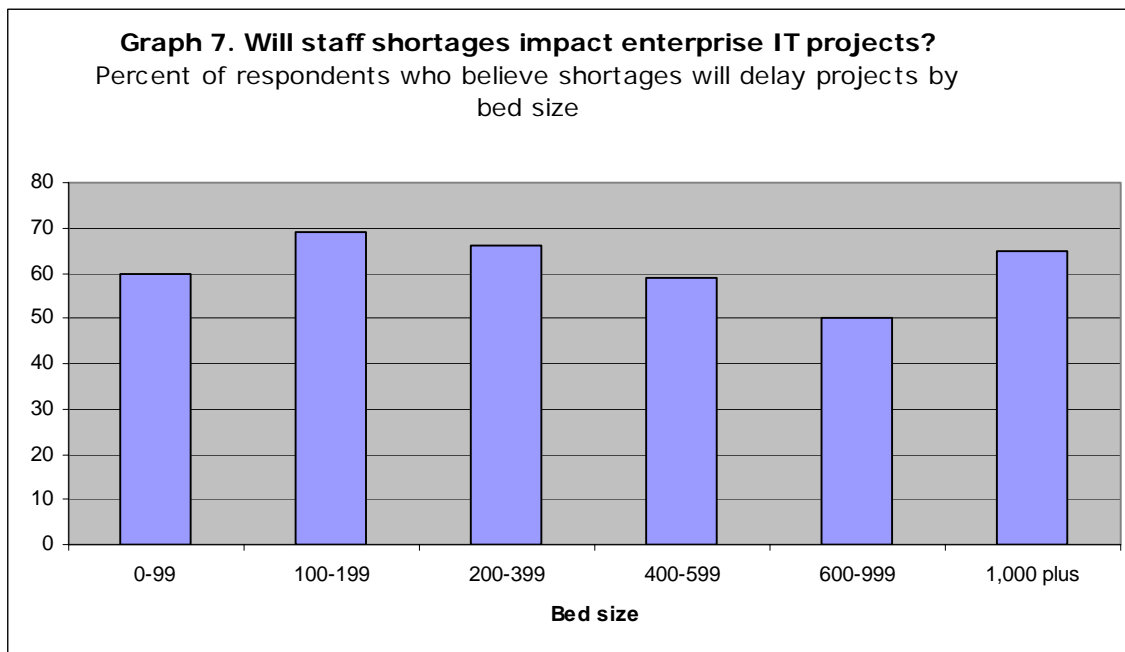Percent of respondents reporting open positions



Other types of IT staff positions, and percentages of respondents reporting openings, include:
- **Infrastructure staff** (system engineering, network engineering, database administration, interface engineering, telecommunications), 44 percent.
- **Business software implementation and support staff** (project managers, analysts, programmers, report writers, trainers, technical writers), 43 percent.
- **End user services staff** (help desk analysts, desktop technicians, switchboard operators), 32 percent.
- **Staff to backfill current IT staff** (while implementing EHR solutions), 31 percent.
- **Management staff** (CIO, chief medical information officer (CMIO), IT directors, managers or supervisors), 25 percent.

## Potential impact of IT staffing shortages

CIOs responding to the CHIME survey are predicting that their IT staffing gaps will affect their ability to complete projects and could impair their organizations' ability to qualify for stimulus fund payments for implementing clinical systems.

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Some 62 percent of respondents said that the lack of IT staffing will jeopardize their ability to complete an enterprise IT project. The chart below (Graph 7) details responses by bed size.

**Graph 7. Will staff shortages impact enterprise IT projects?**
Percent of respondents who believe shortages will delay projects by bed size

| Bed size | Percent |
|----------|---------|
| 0-99 | 60 |
| 100-199 | 69 |
| 200-399 | 66 |
| 400-599 | 59 |
| 600-999 | 50 |
| 1,000 plus | 65 |

When asked to assess the impact on IT staffing shortages on their organization's ability to implement an EHR and receive stimulus fund payments, 10 percent of respondents said staffing shortages "definitely would affect" their chances of qualifying. Another 51 percent said that shortages "possibly will affect" their chances, while 39 percent their efforts to obtain funding wouldn't be impacted by a staffing shortage.

Respondents from smaller organizations were more likely to say that a lack of IT staffing would affect their ability to qualify for stimulus funding. The tables below illustrate respondents' responses by type of organization and bed size.

**Table 4. Shortages impact EHR implementation by provider type**
Percent of respondents who believe shortages will delay projects

| Type of provider | Percent |
|------------------|---------|
| Academic Medical Center | 50 |
| Community Hospital | 65 |
| Hospital/Clinic Model | 52 |
| Multi-hospital system | 64 |

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| Table 5. Shortages impact EHR implementation by bed size | |
|---|---|
| Percent of respondents who believe shortages will delay projects | |
| **Bed sizes** | **Percent** |
| 0-99 | 60 |
| 100-199 | 72 |
| 200-399 | 67 |
| 400-599 | 52 |
| 600-999 | 60 |
| 1,000 or more | 53 |

## How hospitals are dealing with shortages

Healthcare organizations in general are aware of the need for additional IT staffing and are pursuing a variety of approaches to attract and retain personnel.

Respondents from half of the organizations said there will be little to no additional money spent on bolstering IT staff. About 26 percent of responding CIOs said they expect no additional budgeted spending for IT staffing in 2011, and 24 percent see budget increases of less than 5 percent.

By hospital type, 33 percent of respondents from community hospitals said they were not increasing budgets for IT staff, compared with 25 percent of academic medical centers and 20 percent of both hospital/clinic models and multi-hospital systems (see Table 6 below).
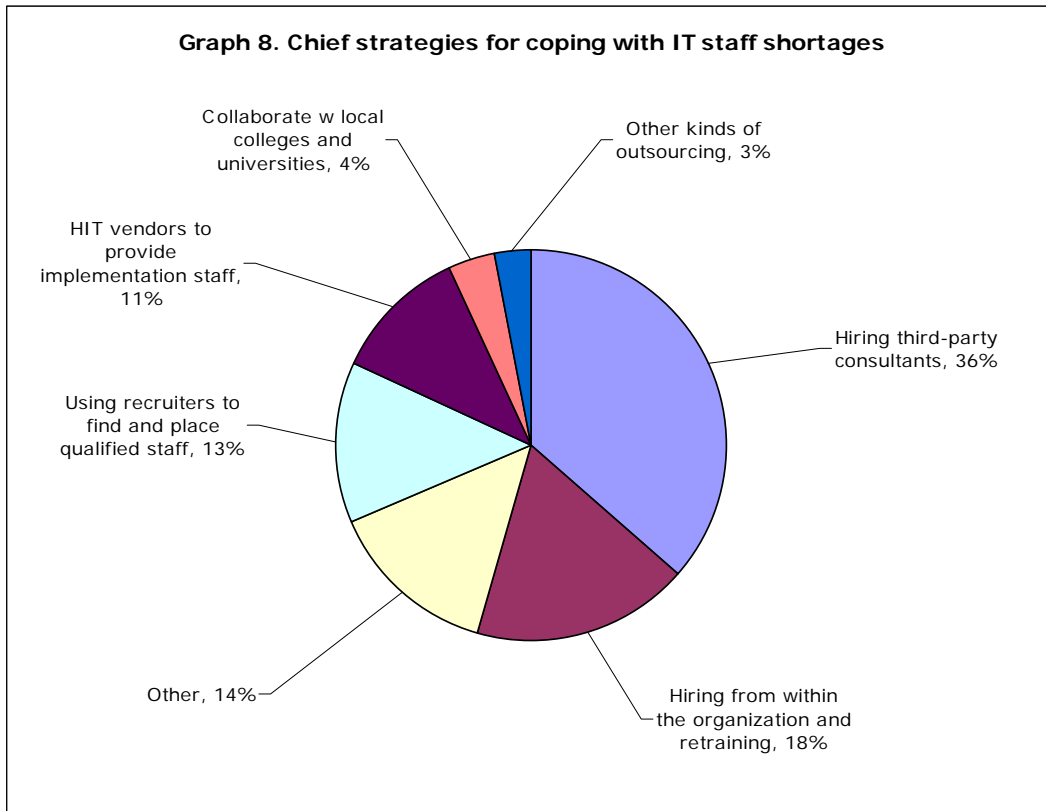
| Table 6. Anticipated additional spending on IT staffing by provider type | | | | | |
|---|---|---|---|---|---|
| % of respondents reporting percentage of budget increases | | | | | |
| **Provider Type** | **No increase** | **<5%** | **5% to 9%** | **10% to 20%** | **20%+** |
| Academic Medical Center | 25 | 25 | 20 | 15 | 15 |
| Community Hospital | 33 | 23 | 13 | 23 | 7 |
| Hospital/Clinic Model | 20 | 13 | 33 | 20 | 13 |
| Multi-hospital System | 20 | 29 | 31 | 16 | 4 |

By bed size, respondents at smaller hospitals were less likely to be increasing budgets to boost IT staffing (see Table 7 below for comparisons by bed size).

| Table 7.  Anticipated additional spending on IT staffing by bed size | | | | | |
|---|---|---|---|---|---|
| % of respondents reporting percentage of budget increases | | | | | |
| **Bed Size** | **No increase** | **<5%** | **5% to 9%** | **10% to 20%** | **20%+** |
| 0-99 | 30 | 25 | 15 | 20 | 10 |
| 100-199 | 29 | 11 | 21 | 21 | 18 |
| 200-399 | 23.5 | 23.5 | 18 | 23.5 | 12 |
| 400-599 | 31 | 24 | 24 | 17 | 3 |
| 600-999 | 25 | 35 | 10 | 30 | 0 |
| 1,000 or more | 19 | 26 | 32 | 16 | 6 |

In detailing how they plan to cope with IT staffing shortages, 36 percent of respondents said their chief strategy would involve hiring third-party consultants (see Graph 8). By contrast, the second most frequently mentioned strategy – hiring others from within an organization and retraining for IT roles – was listed as a chief strategy by 18 percent.

Another 13 percent of respondents said they are working with recruiters to identify and place qualified staff. Some 11 percent said their chief strategy is depending on healthcare IT vendors to provide implementation staff; and 22 percent listed a variety of other strategies as their chief approach.
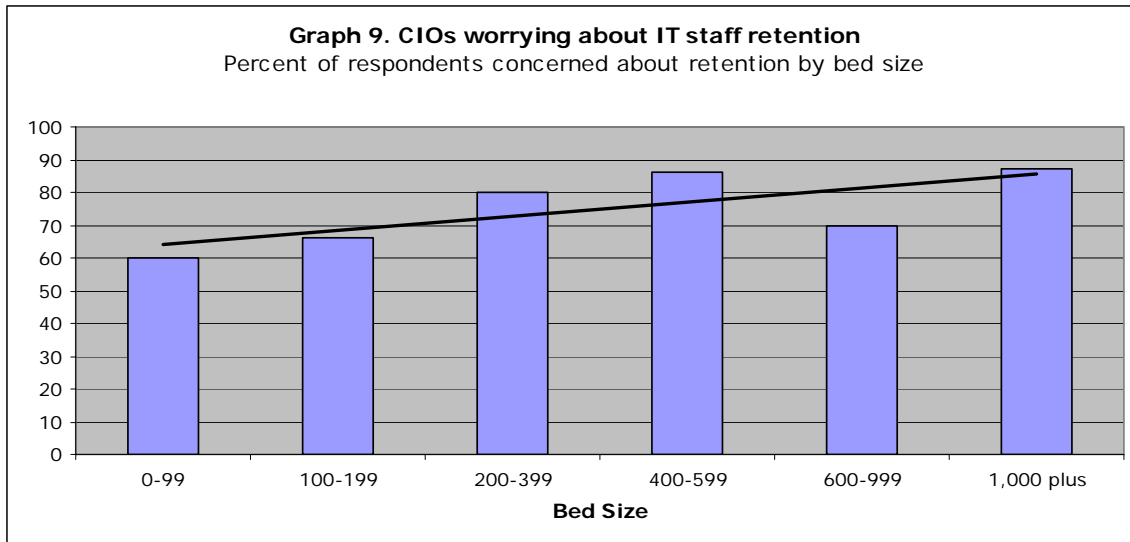
**Graph 8. Chief strategies for coping with IT staff shortages**

- Collaborate w local colleges and universities, 4%
- Other kinds of outsourcing, 3%
- HIT vendors to provide implementation staff, 11%
- Hiring third-party consultants, 36%
- Using recruiters to find and place qualified staff, 13%
- Other, 14%
- Hiring from within the organization and retraining, 18%

## The need to retain current IT staff

Overall, responding CIOs said they were just as concerned with the need to retain current employees on their IT team, and many are using multiple strategies to keep them.
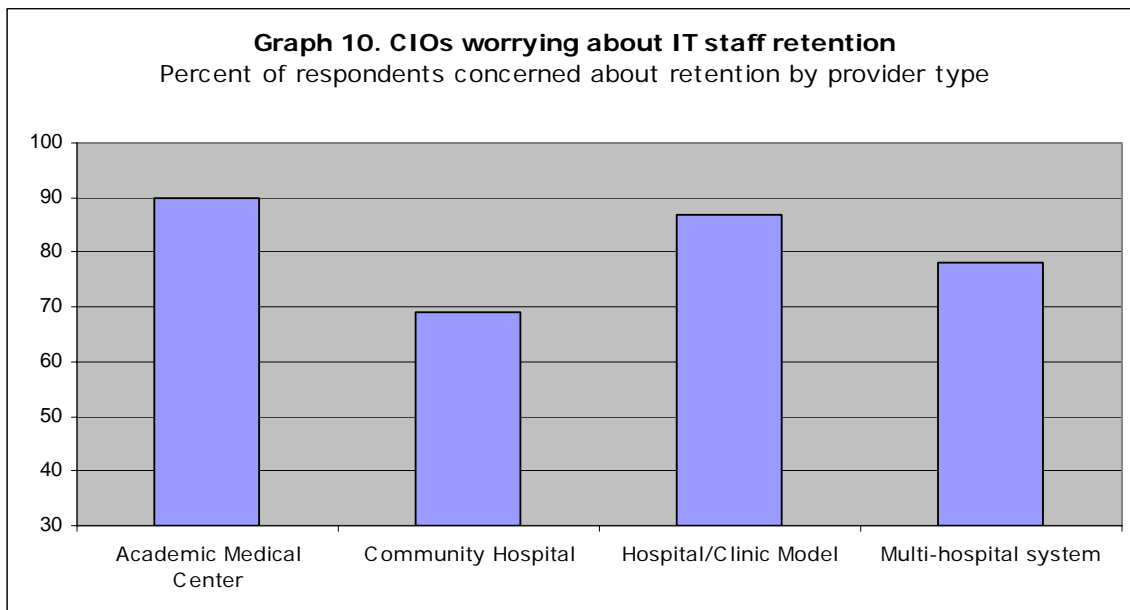
Some 76 percent of respondents said they were concerned about retaining current IT staff, while 24 percent said they had no such concerns.

By hospital size, the bar graph below contains a trend line indicating that concern about retaining IT staff generally increases relative to an organization's bed size. This makes sense,

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since larger organizations are more likely to be located in metropolitan areas where hospitals are more likely to compete with each other for a limited pool of experienced technologists.

**Graph 9. CIOs worrying about IT staff retention**
Percent of respondents concerned about retention by bed size

Bed Size: 0-99, 100-199, 200-399, 400-599, 600-999, 1,000 plus

Concern about retaining IT staff is highest among respondents from academic medical centers, followed closely by those from hospital/clinic models (see Graph 10 below). More than two-thirds of respondents from community hospitals expressed concern about retaining current staff.

**Graph 10. CIOs worrying about IT staff retention**
Percent of respondents concerned about retention by provider type

Academic Medical Center, Community Hospital, Hospital/Clinic Model, Multi-hospital system

Respondents were asked what kinds of efforts they were making to retain current staff, and were able to select from a list of potential strategies. In general, the most popular current retention strategies reflect approaches that involve little or no additional cost to the organization. For

example, the most frequently mentioned approaches involved flexible work schedules and telecommuting, mentioned by 97 survey respondents, and employee recognition programs, being used by 95 respondents. Enabling staff to opt for job sharing was reported by 15 respondents.

However, some organizations are committing additional funds to retain staff. Some 70 responding CIOs said their organizations were seeking to retain IT staff by providing additional funds toward staff education and development. Some 64 respondents said they were increasing pay for current IT staff to keep them on board. Some 38 respondents said their organizations are offering performance bonuses, while 27 are paying retention bonuses.

## About CHIME

The College of Healthcare Information Management Executives (CHIME) is an executive organization dedicated to serving chief information officers and other senior healthcare IT leaders. With more than 1,400 CIO members and over 70 healthcare IT vendors and professional services firms, CHIME provides a highly interactive, trusted environment enabling senior professional and industry leaders to collaborate; exchange best practices; address professional development needs; and advocate the effective use of information management to improve the health and healthcare in the communities they serve. For more information, please visit www.cio-chime.org.

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