



## **HIMSS 2009 Informatics Nurse Impact Survey**

**Final Report: April 2, 2009**

**Sponsored by:**

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## 1. Executive Summary

To explore today's changing landscape, a wide range of healthcare professionals were asked to identify the impact that informatics nurses can have on the healthcare information technology (IT) environment. A total of 432 responses were received for the HIMSS 2009 Informatics Nurse Impact Survey, sponsored by McKesson. The results of this survey suggest that informatics nurse professionals play a crucial role across a wide variety of information technology areas. On a scale of one to seven, where one is a low rating and seven is the highest rating, respondents reported an average score of 6.29 with regard to the value informatics nurses bring to the IT systems implementation process. However, even the area with the lowest average rating (selection—5.12) still suggested that informatics nurses bring a high level of value to the IT arena. This research also tested the impact that informatics nurses have in several key areas throughout their organization. Three areas—workflow, user/clinician acceptance and screen flow received an average score of six or higher.

### **Other key survey results include:**

**Involvement of Informatics Professionals:** Eighty-five (85) percent of respondents noted that individuals with a clinical background are employed in the Information Services (IS) department at their organization. The vast majority of these organizations employ individuals with a nursing background. Additionally, a high percentage of organizations employ individuals with nursing backgrounds to work with IT, although these employees are not part of their formal IT environment.

**Role of Informatics Nurses:** Informatics nurses are involved in a wide variety of job responsibilities relating to IT. Nearly all respondents noted that informatics nurses play a significant role in user education. Informatics nurses are also widely involved in system implementation, user support, workflow analysis and gaining buy-in from end users.

**Value and Impact of Informatics Nurses:** Respondents believe that informatics nurses involved in system analysis, design, selection, implementation and optimization of IT have the greatest impact on patient safety (6.21), workflow (6.17) and user/clinician acceptance (6.15). The area with the least impact was integration with other systems (6.03). These findings suggest the informatics nurse is a driver of quality of care and enhanced patient safety within their organization.

**Success of Informatics Nurses:** Making sure that IT does no harm (5.83) was the concept with the highest average rating relative to the area of impact in which informatics nurses have the most success. Other areas receiving high average scores are administration of the correct patient medication (5.58); improving clinical reporting (5.55) and improving quality reporting (5.51).

**Involvement of Informatics Nurses with Emerging Technologies:** Eighty-one percent of respondents whose organization was pursuing medical device integration indicated that informatics nurses were involved with this initiative. Informatics nurses are also highly involved with smart devices and remote monitoring.

## 2. Methodology and Profile of Survey Respondents

A total of 432 useable responses were received for this web-based survey. Data was collected between December 8, 2008 and February 10, 2009.

Nearly three-quarters of respondents work either for a hospital or healthcare system. Another 11 percent work for a vendor organization or consulting firm. Other types of organizations represented in this research include provider types such as home health agencies or ambulatory facilities; academic settings or government/military/VA. The remaining 10 percent work for other types of organizations. (Figure 1)

Respondents represent a very wide range of titles, the vast majority of which are nursing-related titles. More specifically, 18 percent of the population represents a nurse executive, which includes titles such as Chief Nursing Informatics Officer (CNIO), Director of Nursing/Director of Nursing Informatics or Chief Nursing Officer (CNO). Another ten percent of the respondents are comprised of non-nursing executives, such as Chief Information Officers (CIOs), Chief Operating Officers (COOs) and Presidents/Chief Executive Officers (CEOs). Titles held by the remaining respondents include clinical analysts, informatics nurses, Manager of Clinical Technology, and Nursing Informatics Coordinators.

Annual gross operating revenues for the organizations represented in this research include: (Figure 2)

- \$50 million or less—14 percent;
- \$51 million to \$200 million—8 percent;
- \$201 million to \$350 million—3 percent;
- \$351 million to \$500 million—5 percent;
- \$501 million to \$1 billion—7 percent;
- More than \$1 billion—8 percent; and
- Not Applicable—4 percent.

Approximately 17 percent of individuals responding to this survey indicated that they represent the Middle Atlantic<sup>1</sup> region. The East North Central<sup>2</sup>, South Atlantic<sup>3</sup> and Pacific<sup>4</sup> region each have 16 percent of respondents. The fewest respondents (three percent) were located in the East South Central<sup>5</sup> region. (Figure 3)

Finally, respondents were asked to identify their level of education. One-third of respondents (37 percent) reported that they have a Bachelor's Degree in Nursing. Nearly another third (30 percent) reported that they have a Masters Degree in Nursing, while one-quarter (23 percent) have a Masters Degree in another specialty area. Other educational backgrounds represented in the survey included Registered Nurses (RNs) who do not hold a Bachelor's Degree (12 percent) and those who hold a PhD in Nursing (four percent). Two percent of the respondents are nurse practitioners. (Figure 4)

Most of the survey respondents have been with their organizations for an extended period of time. Twenty-one percent have been with their current organization for five to

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<sup>1</sup> Pennsylvania, New Jersey, New York

<sup>2</sup> Illinois, Indiana, Michigan, Ohio, Wisconsin

<sup>3</sup> Delaware, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia and Washington, D.C.

<sup>4</sup> California, Hawaii, Oregon, Washington, Alaska

<sup>5</sup> Alabama, Kentucky, Mississippi, Tennessee

nine years; another 22 percent have been with their organization for ten to 19 years. One-quarter (25 percent) have been with their organization for 20 years or more. The remaining third have been with their organization for four years or less. (Figure 5)

### **3. Clinical Environment**

Respondents who work for provider organizations were asked to identify the type of applications that are presently installed at their organizations. They were also asked to identify those applications that are presently being implemented but are not yet fully installed.

Laboratory systems were most frequently identified as systems that were installed at respondents' organizations; this was identified by 82 percent of respondents. Three-quarters of respondents also have reported that they have pharmacy systems, PACS, radiology systems, wireless systems and clinical documentation systems. The three applications that respondents were least likely to report having installed were eICU with remote monitoring (17 percent), Personal Health Records (PHRs) (13 percent) and secure patient/provider messaging (12 percent). (Figure 6, Figure 7)

With regard to those systems that are being implemented at respondents' organizations, computerized practitioner order entry (CPOE) was most frequently identified (38 percent of respondents). Also identified by more than 20 percent of respondents are the following:

- Electronic prescribing—27 percent;
- Electronic medical record —24 percent;
- Medication reconciliation —24 percent;
- Bar coded medication administration —24 percent;
- Clinical documentation (non-nursing) —23 percent; and
- Point-of-care decision support —21 percent.

Less than ten percent of respondents indicated they are implementing the below technologies:

- Perinatal —9 percent;
- eICU with remote monitoring —9 percent;
- Pharmacy —7 percent;
- Cardiology —7 percent;
- Radiology — 6 percent;
- Laboratory — 4 percent; and
- PACS —3 percent.

With the exception of perinatal and eICU with remote monitoring, the low rate of future installations may be explained due to high current levels of implementation. (Figure 8)

### **4. Involvement of Individuals with a Clinical Background in IT**

Respondents working for provider organizations were asked to identify whether or not individuals with a clinical background worked in the information services (IS) department. The clinical backgrounds explored in this research included nursing, medical and other clinical backgrounds. Approximately 84 percent of respondents

indicated that their organization employs individuals with a clinical background in the IS department. (Figure 9) Among those respondents that do employ individuals with a clinical background, 86 percent reported that individuals with a nursing background are employed in the IS department at their organizations. Half (51 percent) of respondents reported that individuals with another clinical background are employed in the IS department at their organization. Finally, slightly more than one-third of respondents reported that individuals with a medical background (MD) are employed in the IS department at their organization. (Figure 10)

Nine percent of respondents noted that individuals with a clinical background are not employed in the IS department at their organization. Another nine percent were uncertain as to whether or not individuals with a clinical background were employed within the IS department of their organization.

This survey also focused on gaining an understanding of the extent to which individuals with a clinical background work with information technology but are not employed by the IS department. Three-quarters of respondents (75 percent) indicated that individuals with a clinical background work with IT but are not employed by the IS department. Among these respondents, three-quarters indicated that individuals with a nursing background are involved with IT but are not employed by the IS department. 40 percent reported that individuals with another clinical background are involved with IT but are not employed by the IS department. Finally, one-third of respondents indicated that there are individuals with a medical background who fill this type of role. (Figure 11)

Fifteen percent of respondents working for provider organizations indicated that there are no respondents in this capacity working at their organization.

Respondents working for an organization that can be classified under the general header of “vendor” were also asked to summarize the participation of individuals with a clinical background in tasks that have some role in IT, such as system development or development of policy. Over 90 percent of respondents working for a vendor organization noted that individuals with a clinical background are involved in the IT activities, as described above, at their organization.

## **5. Role of Informatics Nurses**

Respondents were also asked a series of questions to gain an understanding of the role that informatics nurses play in healthcare IT. Respondents were provided with a definition derived from American Nurses Association definitions of an informatics nurse as —“a registered nurse with experience in an informatics field; a generalist in the field of nursing informatics.” Respondents were asked to respond to the questions in this section if nurses are involved with technology at their organization, regardless of the role that they play or the type of organization they work for.

First, respondents were asked to indicate the roles that nurses play with regard to IT. Nearly all respondents (93 percent), who were able to select from all of the roles that informatics nurses could play, indicated that informatics nurses play a role in user education. At least 80 percent of respondents also indicated that informatics nurses also play a role in system implementation (89 percent), user support (86 percent), workflow analysis (84 percent), and getting buy in from end users (80 percent). These results emphasize the importance of the role of the informatics nurse with regard to change management and process improvement. At least 40 percent of respondents indicated

that informatics nurses play a role in all of the other areas identified in this research, with the exception of pay for performance/reimbursement. This item was selected by only 13 percent of respondents. A full list of the items included in this research is listed below: (Figure 12)

- User education – 93 percent;
- System implementation – 89 percent;
- User support – 86 percent;
- Workflow analysis – 84 percent;
- Getting buy in from end users – 80 percent
- System design –79 percent;
- Selection/Placement of devices –70 percent;
- Quality initiatives –69 percent;
- System optimization –62 percent;
- System selection – 62 percent;
- Database management/reporting – 53 percent;
- Data integration – 48 percent;
- Outcomes management – 47 percent;
- Medical device integration – 46 percent;
- Hardware/device support – 43 percent; and
- Pay for performance/reimbursement – 13 percent.

Respondents were also asked to identify the amount of time that informatics nurses presently spend on the various items outlined above. On average, respondents indicated that informatics nurses were spending the most time on system implementation (30 percent of time). It was also stated that informatics nurses spend more than a quarter of their time on user education (28 percent of time), user support (27 percent of time) and system design (25 percent of time). Respondents indicated that informatics nurses were least likely to spend time on hardware/device support (10 percent of time) and medical device integration (10 percent of time).

Respondents were also asked to comment on the ideal percent of time that informatics nurses should spend on an activity. Ideally, according to respondents, informatics nurses should spend the most time on system design, system implementation and system education. Respondents believed that informatics nurses should spend the least time on medical device integration, pay for performance and hardware/device support.

Table One below illustrates the current percent of time informatics nurses spend in a particular area, the ideal percent of time they spend in a particular area, as well as the difference between current time and ideal time.

Area	Current Percent of Time	Ideal Percent of Time	Difference
Database Management/Reporting	19.22%	14.69%	4.53%
Hardware/Device Support	10.53%	6.30%	4.23%
Pay for Performance	13.44%	9.71%	3.73%
User Support	27.08%	23.48%	3.60%
User Education	28.22%	25.27%	2.95%
System Implementation	29.50%	26.59%	2.91%
Getting Buy in From End Users	20.50%	19.05%	1.45%
Data Integration	16.67%	15.27%	1.40%
Medical Device Integration	10.19%	10.00%	0.19%
Workflow Analysis	21.87%	22.32%	-0.45%
Quality Initiatives	19.33%	20.79%	-1.46%
Selection/Placement of Devices	12.94%	14.64%	-1.70%
System Design	25.20%	27.17%	-1.97%
Outcomes Management	15.70%	18.76%	-3.06%
System Optimization	18.49%	24.37%	-5.88%
System Selection	14.73%	21.68%	-6.95%

**Table One**

Informatics nurses don't always spend as much time as is considered ideal in a number of areas. The two areas that respondents believe that informatics nurses are spending less time than is ideal are system selection and system optimization. For system selection, informatics nurses are estimated to spend 15 percent of their time in this area; the ideal amount of time is identified to be 22 percent. For system optimization, the actual percent of time is 18 percent and the ideal percent of time is 24 percent of time.

There are also several areas in which respondents believe that informatics nurses spend more time than is ideal. These areas, in particular are database management/reporting and hardware device/support. With regard to database management/reporting, informatics nurses presently spend 19 percent of their time on this type of activity; the ideal amount of time would be 15 percent. Informatics nurses are presently spending 11 percent of their time on hardware/device support; the ideal amount of time, according to respondents, would be closer to six percent.

## 6. Value and Impact of Informatics Nurses

Respondents were asked to identify the value that informatics nurses bring to several key areas within the IT arena. Once again, this question was posed only to respondents who reported that individuals with a nursing background were involved in IT initiatives at their organizations. Each of these concepts was tested on a scale of one to seven, where one is the lowest rating and seven is the highest rating. (Figure 13)

Areas of greatest value include:

- System Implementation – 6.29;
- System Analysis – 5.99;

- System Design — 5.97;
- System Optimization — 5.96; and
- System Selection — 5.12.

More broadly, respondents were asked to identify the impact that having informatics nurses involved in the system analysis, design, selection, implementation and optimization has on the adoption of IT systems and technology by non-physician clinicians. On a scale of one to seven, where one is no impact and seven is high impact, respondents recorded an average score of 6.03. When examined by the different populations represented in this study, it can be suggested that nurse executives (6.00) have a slightly higher perception of the impact of informatics nurses than do non-nurse executives, which include titles like CIOs, CEOs and COOs (5.82). (Figure 14)

Respondents were also asked with regard to the impact that having informatics nurses involved in system analysis, design, selection, implementation and optimization has on the adoption of IT systems and technology by physicians. Using the same scale, an average score of 5.27 was reported. When examined by the different populations represented in this study, it can be suggested that nurse executives (5.52) have a higher perception of the impact of informatics nurses in this area than do non-nurse executives (4.92). (Figure 15)

In addition, respondents were asked to identify the impact that informatics nurses involved in the system analysis, design, selection, implementation and optimization had on a number of items throughout their organization. As above, respondents were asked to rate the impact of each item on a scale of one to seven, where one is the lowest rating and seven is the highest rating. Respondents believe that having informatics nurses involved in these areas of IT have the greatest impact on patient safety. Also having an average score of six or higher were the following areas: (Figure 16)

- Patient Safety – 6.21;
- Workflow – 6.17;
- User/Clinician Acceptance — 6.15; and
- Screen Flow — 6.03.

Respondents believed that informatics nurses have the least impact in the area of integration with other systems, which received an average score of 4.73.

The non-nurse executives participating in this research indicated that workflow (6.13) and user/clinician acceptance (6.00) were the two areas that informatics nurses could have the most impact. These executives were least likely to believe that informatics nurses have an impact in the areas of integration (3.83) and reporting (4.91).

Not surprisingly, the nurse-executives participating in this research believe that informatics nurses will have a positive impact across all areas tested in this research. Several areas had an average score of six or higher.

- Workflow – 6.43;
- Patient Safety – 6.36;
- Screen Flow – 6.29;
- Design/Configuration – 6.28;
- User/Clinician Acceptance – 6.26; and
- Quality Outcomes — 6.02.

The item with the lowest ranking score was integration, which received an average score of 5.16.

Clearly, the dialogue above suggests that workflow is a key area in which informatics nurses can have an impact. Many respondents also identified workflow in an open-ended question where they were asked to identify in their own words the value of having a professional with a clinical background involved with IT. Several quotes are listed below:

“[Informatics nurses have a] clear understanding of workflows that can be translated into system design.”

“Knowledge of clinical workflow process and clinical standards are not skills that IT professionals have.”

“Having a [professional with a] clinical background allows the implementation team a special insight to the workflow and processes of the clinical dept.”

User/clinician acceptance was a second area in which respondents noted that informatics nurses could have a high level of impact. Several of the respondents used the opportunity of the open-ended question to address the importance of this issue:

“Having an RN or Physician working in IT is essential because of their clinical background. They are able to understand the clinical aspect of applications and make changes or suggestions to make it easier on the end users.”

“The clinical background helps to determine the needs of the end-users. They have been in the same situations as the end-users. The end-users are more accepting when they know that someone from their area and on their level is helping to implement and make decisions on their behalf.”

Another area the respondents raised in the open-ended question regarding value of having a professional involved in IT is the fact that individuals with a clinical background speak the language of clinicians. While this area wasn't specifically addressed in the one to seven scales in the research, it obviously has importance to survey respondents. Several quotes are listed below:

“[Clinicians] can translate clinical issues to the technical staff and translate technical issues to the clinical staff. [They] understand both the technical and clinical needs of the systems.”

“Clinical folks can translate ITese to other clinical staff and can translate clinical needs to the IT staff.”

Finally, respondents were asked to identify the rate of success that informatics nurses are having with regard to helping their organization achieve success in several areas. The area receiving the highest average score is making sure that IT does no harm. The scores for the other areas tested are: (Figure 17)

- Making sure that IT does no harm – 5.83;
- Administering correct patient medications – 5.58;
- Improving clinical reporting – 5.55;
- Improving quality reporting – 5.51;

- Preventing never events – 5.22;
- Identifying conditions present on admission – 5.04
- Eliminating documentation redundancies – 4.22; and
- Eliminating registration redundancies – 4.20.

In all instances, nurse executives have a higher average rating than do the staff level respondents.

As already noted, respondents were also asked to speak to the value of informatics nurses at their organization in their own words. Quotes from several different respondents summarize this section nicely:

*Chief Information Officer –*

“Cannot be overstated....having clinical professionals involved not only produces higher quality clinical applications, but establishes ownership of those applications within the clinical community, so they have a vested interest in seeing them be successful. This usually translates into more effective and accepted process changes, that are usually required, as well as a more cooperative approach in addressing obstacles as they occur. When we host site visits for our vendors, we point out this approach as a fundamental reason for any success that we have had, and that its not always the richness of the vendor application suite that determines the success/failure of an implementation...”

*Chief Information Officer –*

“It is absolutely essential; they bring a working knowledge of how a clinical process works or should work and how the information system can or can't work with that process. Additionally, they are more likely to recognize risks to failure in the process, recommending process changes or mitigation steps.”

*Chief Nurse Executive –*

“[They are] able to understand the flow of orders to other departments. Individuals with clinical backgrounds know how the flow of information works, especially in the acute care setting.”

## **7. Informatics Nurses and Emerging Technologies**

Finally, respondents were asked to state the role that informatics nurses played with regard to emerging technologies. Before this question can be answered, however, it is important to understand to what extent organizations are pursuing emerging technologies.

Respondents were most likely to suggest that their organization is working on medical device integration (81 percent). This is followed by data warehousing (70 percent), smart devices (66 percent), remote monitoring (51 percent) and personalized healthcare (50 percent). Fewer than half of respondents reported that their organization is pursuing a strategy that includes voice recognition (49 percent) or predictive modeling (32 percent).

Medical device integration is the emerging technology that respondents were most likely to indicate that their organizations were pursuing, and it was also the area reported informatics nurses were most involved (81 percent). Informatics nurses are also likely to

be involved in initiatives surrounding smart devices (75 percent) and remote monitoring (63 percent). These nurses are least likely to be involved in the implementation of voice recognition technology (39 percent). (Figure 18)

## 8. IT Barriers

Respondents were asked to identify the single barrier that impacts the successful implementation of IT at their organization. The item most frequently identified was lack of adequate financial support for IT/lack of budget; this was identified by 15 percent of respondents. Identified by 12 percent of respondents was vendors' inability to effectively deliver products and/or services to satisfaction. Respondents were least likely to suggest difficulty proving IT quantifiable benefits/ROI as a barrier (two percent). (Figure 19)

## 9. Conclusion

It is clear from this research that the value of informatics nurses is widely recognized in the healthcare IT industry. Most of the hospitals and care delivery organizations represented in this research employ informatics nurses, who hold a wide variety of roles within their organizations. Non-provider organizations, such as vendors, also employ informatics nurses. The role of informatics nurses varies widely—from user education to system implementation to user support to workflow analysis to gaining buy in from end users. At least 80 percent of respondents with an informatics nurse at their organization reported that informatics nurses played each of the roles identified in section five above.

Despite the wide variety of roles that informatics nurses are playing, respondents suggested that they are not spending as much time as they should in the areas of system selection and system optimization. This suggests that respondents understand that the role of informatics nurses is moving past bringing only tactical experience to the point where they are able to act in a more strategic fashion. This underscores the value informatics nurses bring to the clinical (not just nursing) IT solutions used at their organization.

Informatics nurses are also poised to play a critical role as organizations continue to expand their focus on leveraging the data contained in their electronic medical records. With the passage of the American Reinvestment and Recovery Act, which will provide incentives to healthcare organizations that “meaningfully use” electronic medical records, informatics nurses will be able to apply their ability not only to understand all sides of the IT process, but to act as a translator between those who understand the language of the technology and the language and needs of clinicians and patients.

The role of informatics nurses is not limited to IT; this research also suggests that informatics nurses play an instrumental role with regard to patient safety, change management and usability of systems as evidenced by their impact on quality outcomes, workflow, and user acceptance. These additional areas highlight the value of informatics nurses—their expertise truly translates to the adoption of more effective, higher quality clinical applications in healthcare organizations.

## 9. About HIMSS

The Healthcare Information and Management Systems Society (HIMSS) is the healthcare industry's membership organization exclusively focused on providing global leadership for the optimal use of healthcare information technology (IT) and

management systems for the betterment of healthcare. Founded in 1961 with offices in Chicago, Washington D.C., Brussels, Singapore, and other locations across the United States, HIMSS represents more than 20,000 individual members and over 350 corporate members and organizational affiliates that collectively represent organizations employing millions of people. HIMSS frames and leads healthcare public policy and industry practices through its advocacy, educational and professional development initiatives designed to promote information and management systems' contributions to ensuring quality patient care.

The HIMSS Nursing Informatics Community was founded in 2003 in response to the increased recognition of the role of the nurse informaticist in healthcare information and management systems. As one of HIMSS Communities of Profession, this effort was intended to build a Community within the HIMSS membership to articulate a cohesive voice, create networking opportunities and to provide domain expertise, leadership and guidance to HIMSS activities, initiatives, and collaborations with the global nursing informatics community. Since its formation the Nursing Informatics Community has increased to just over 2,000 nurses, representing more than 10% of HIMSS members. Learn more by visiting [www.himss.org/ni](http://www.himss.org/ni)

## **10. About McKesson**

McKesson Corporation, currently ranked 18th on the FORTUNE 500, is a healthcare services and information technology company dedicated to helping its customers deliver high-quality healthcare by reducing costs, streamlining processes, and improving the quality and safety of patient care. McKesson is the longest-operating company in healthcare, marking its 175<sup>th</sup> anniversary last year. Over the course of its history, McKesson has grown by providing pharmaceutical and medical-surgical supply management across the spectrum of care; healthcare information technology for hospitals, physicians, homecare and payors; hospital and retail pharmacy automation; and services for manufacturers and payors designed to improve outcomes for patients. For more information, visit <http://www.mckesson.com/nursing>

## **11. How to Cite This Study**

Individuals are encouraged to cite this report and any accompanying graphics in printed matter, publications, or any other medium, as long as the information is attributed to the 2009 HIMSS Informatics Nurse Impact Study, sponsored by McKesson.

## **12. For More Information, Contact:**

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# Appendix One



## Worksite

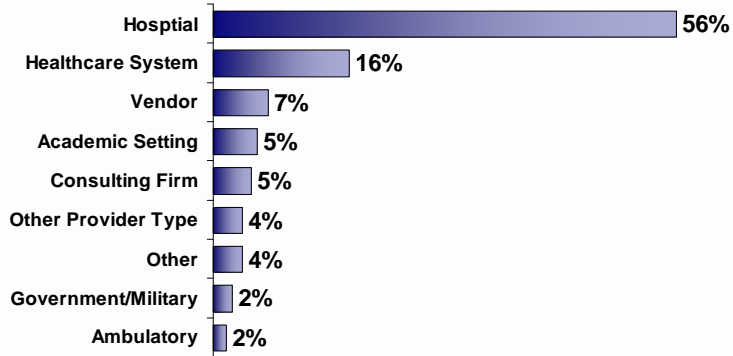


Figure One.



## Annual Gross Revenue

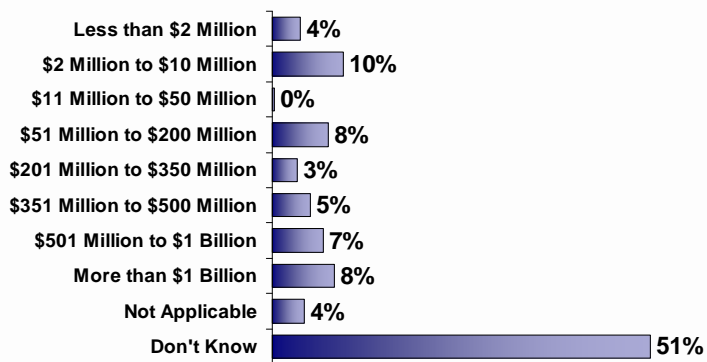


Figure Two.

## Region

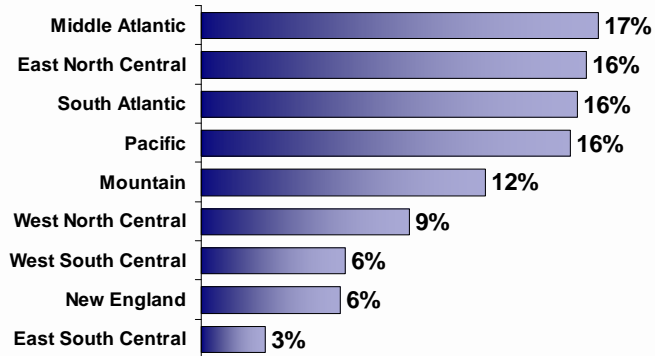


Figure Three.

## Level of Education

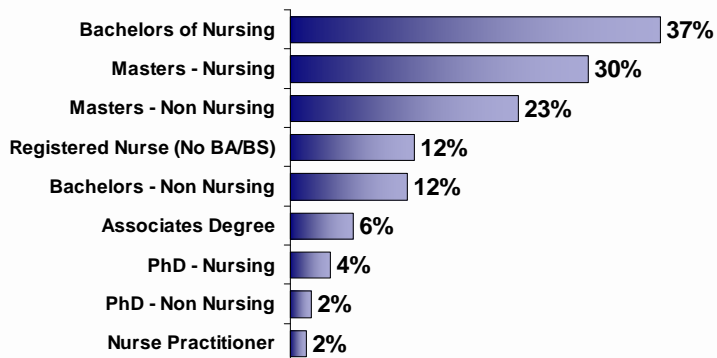


Figure Four.

## Length of Service with Current Organization

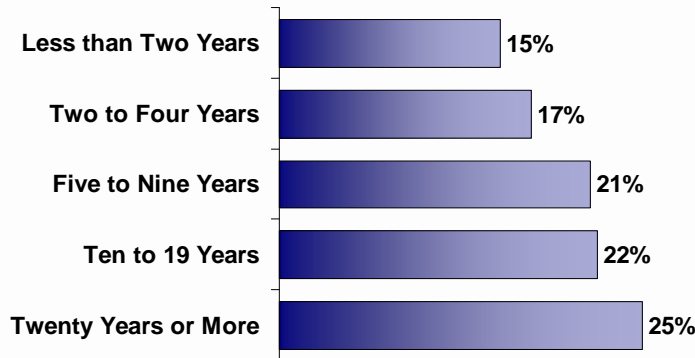


Figure Five.

## Top Applications (Top Third of Installed Systems)

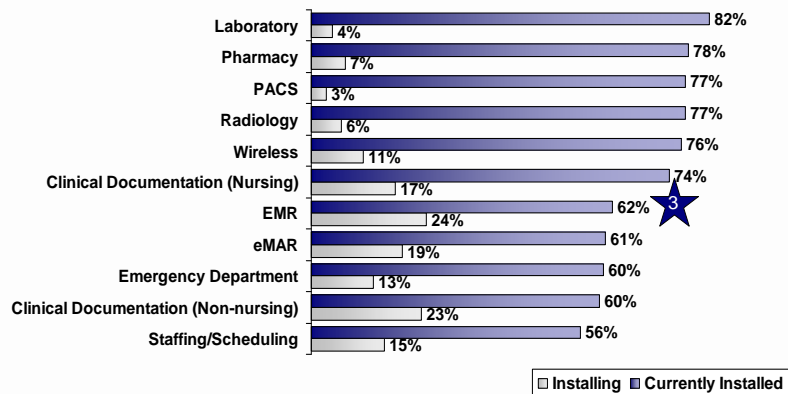


Figure Six.

Starred applications represent the top applications that are currently being installed.

## Top Applications (Middle Third of Installed Systems)

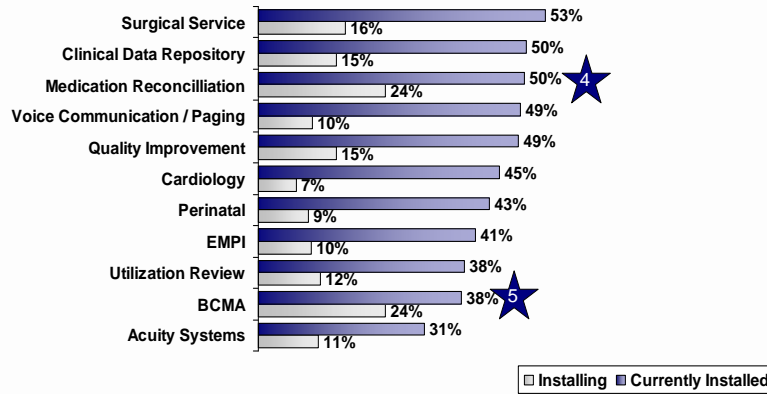


Figure Seven.

## Top Applications (Bottom Third of Installed Systems)

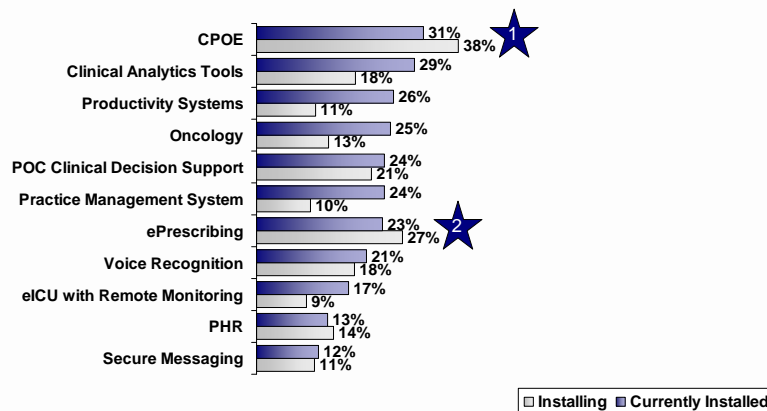
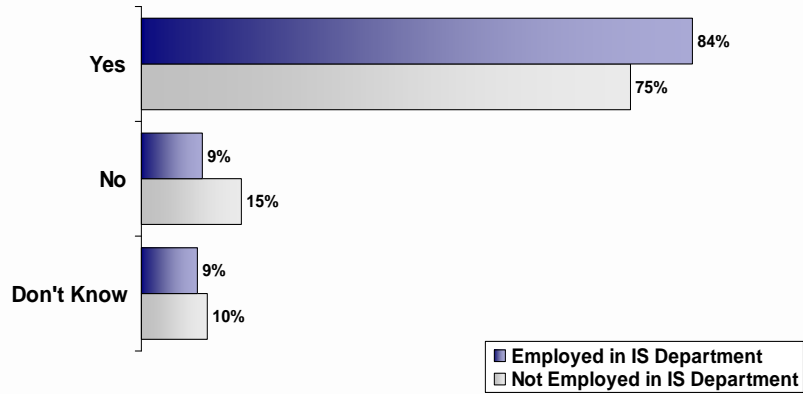


Figure Eight.

Starred applications represent the top applications that are currently being installed.

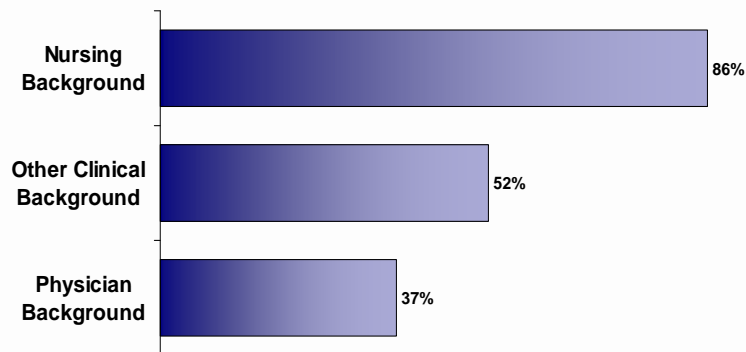
## Involvement of Individuals with Clinical Background with IT Systems



Provider Organizations Only

Figure Nine.

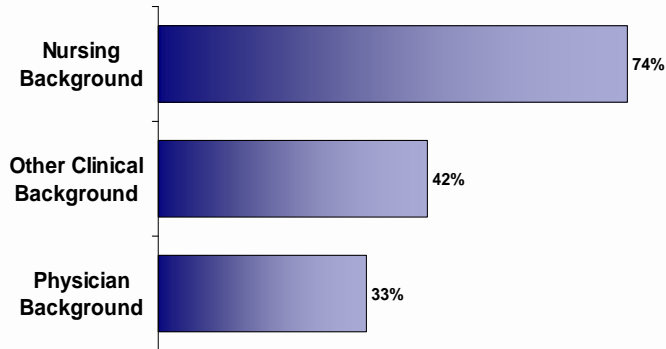
## Types of Clinicians Employed by IS Department



Provider Organizations Only

Figure Ten.

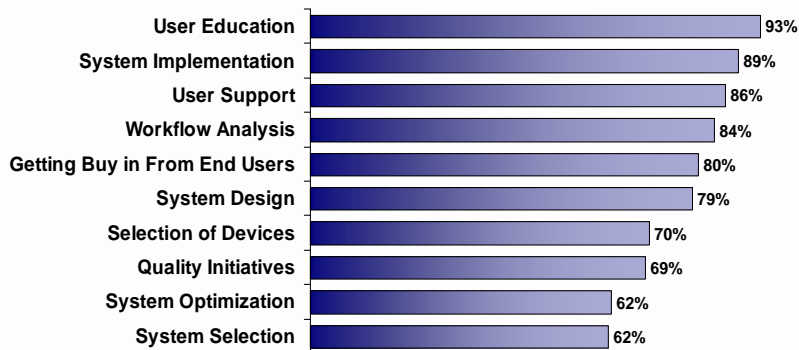
## Types of Clinicians Involved with IS but Not Employed by IS Department



Provider Organizations Only

Figure Eleven.

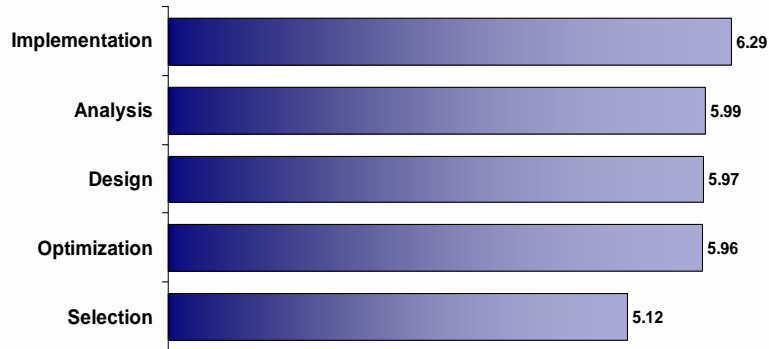
## Role of Informatics Nurses



Responses from those individuals working at an organization where informatics nurses are employed

Figure Twelve.

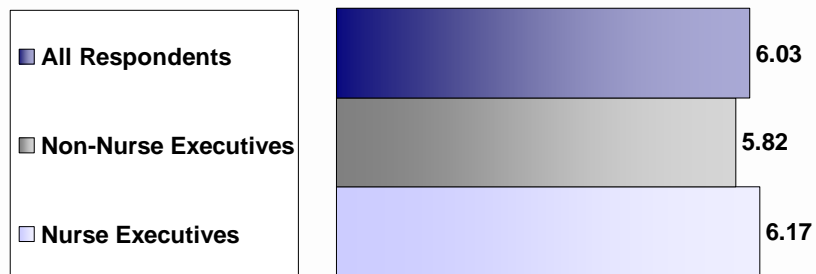
## Value of Informatics Nurses with Regard to Clinical Systems



Responses from those individuals working at an organization where informatics nurses are employed

Figure Thirteen.

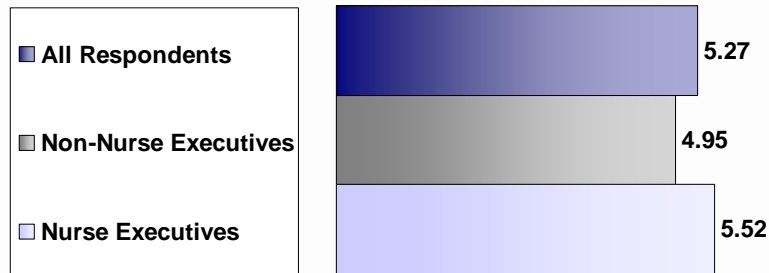
## Impact of Informatics Nurses on Adoption of IT by Non-Physician Clinicians



Responses from those individuals working at an organization where informatics nurses are employed

Figure Fourteen.

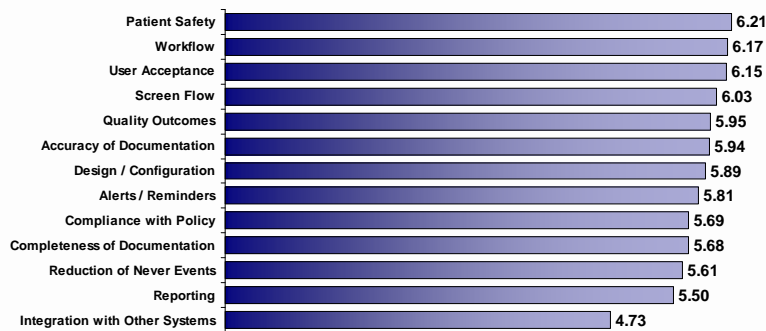
## Impact of Informatics Nurses on Adoption of IT by Physicians



Responses from those individuals working at an organization where informatics nurses are employed

Figure Fifteen.

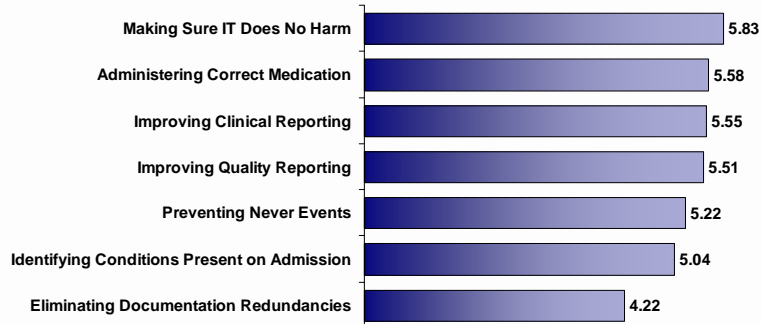
## Impact of Having Informatics Nurses Involved with Clinical Systems



Responses from those individuals working at an organization where informatics nurses are employed

Figure Sixteen.

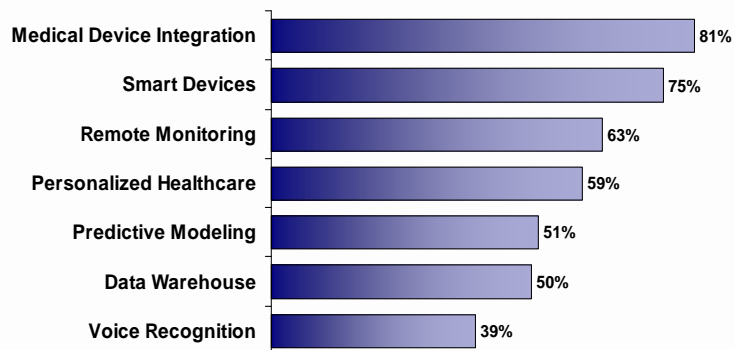
## Level of Success for Informatics Nurses



Responses from those individuals working at an organization where informatics nurses are employed

Figure Seventeen.

## Role of Informatics Nurses Relative to Emerging Technologies



Responses from those individuals working at an organization where informatics nurses are employed

Figure Eighteen.

## Barriers for Technology Adoption



Provider Organizations Only

Figure Nineteen.