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FEBRUARY 19, 2011

2011 HIMSS Nursing Informatics Workforce Survey

supported by the HIMSS Nursing Informatics Community

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2011 Nursing Informatics Workforce Survey

1. Executive Summary

The HIMSS 2011 Nursing Informatics Workforce Survey, supported by the HIMSS Nursing Informatics Community, builds on research that HIMSS released in 2004 and in 2007. As in previous studies, the 2011 survey continues to suggest that nurse informaticists play a critical role in the implementation of various clinical applications including clinical/nursing documentation and clinical information systems, computerized practitioner order entry (CPOE) and electronic medical/health records. In comparison to surveys conducted in 2004 and 2007, the 2011 salary data suggests a substantial increase for nurse informaticists as the average salary increased by 17 percent from 2007 and 42 percent from 2004. In 2011, electronic medical/health records were among the top two highest mentioned applications (following clinical/nursing documentation) for implementation for the first time since the survey was initiated in 2004.

Other key survey findings and comparisons to 2004 and 2007 include:

Respondents: The majority of the 660 nurse informaticists who participated in this research continue to work in a hospital setting—48 percent work at a hospital and another 20 percent work at the corporate offices of a healthcare system.

Clinical Background: In 2011, the respondents tended to have as much clinical experience as those surveyed in 2004 and 2007, with less than half having 16 years or more clinical experience. In both 2004 and 2007, approximately half of the respondents indicated they had at least 16 years of clinical experience prior to beginning their informatics career. More than two in five (44 percent) of respondents reported that at least part of their background was derived from working in critical care followed by those working on a medical/surgical floor (43 percent).

Informatics Education: The informatics education and training question is asked slightly differently in 2011, however, as the two previous surveys suggest that specific informatics training continues to be lacking. Fifteen percent have received on-the-job training and more than half of the 2011 respondents reported having a post graduate degree (56 percent) which includes Masters in Nursing or other field/specialty and PhD in Nursing or other field/specialty. And 15 percent mentioned they are pursuing taking an informatics course (e.g., online or within their institution).

Duration of Informatics Career: Nurse informaticists in the 2011 survey have had longer careers than those who responded to the 2004 and 2007 survey as more than 39 percent of respondents report they have been a nurse informaticist for ten years or more. This suggests an increase in the length of career as the discipline continues to mature. Nursing Informatics was first recognized as a nursing specialty by the American Nurses Association in 1992.

Job Responsibilities: An equal percentage of respondents in 2004, 2007 and 2011 surveys do not have individuals reporting to them (approximately 60 percent). Among those who do have

people reporting to them, 16 percent of the respondents have three to five individuals reporting to them while 14 percent said that they have 11 or more people reporting to them in 2011. As in 2004 and 2007, the 2011 respondents identified systems implementation and systems development activities as their top two job responsibilities.

Barriers to Success: The past three years have resulted in a change in the largest barrier to the success of nurse informaticists. Financial resources are no longer the most identified barrier to success as a nurse informaticist as mentioned in 2004 and 2007 surveys. In 2011, lack of integration/interoperability was mentioned most frequently as the top or secondary barrier. Financial resources were the second highest barrier mentioned in 2011.

Information: Over the course of all three surveys, websites and the Internet are the resources most valuable for carrying out day-to-day job activities. While list servs were among the next highest mentions in 2004 and 2007, in 2011, networking became the second highest mentioned source for day-to-day job activities. As for continuing education credit sources, distance learning (e.g., audio conferences or webinars) were rated the highest, while national conferences are considered the top selection as the most valuable resource for continuing education.

Compensation and Benefits: The average salary of 2011 respondents is $98,702, compared to $83,675 in 2007 and $69,500 in the 2004 surveys, demonstrating the increasing maturity and value of the specialty. The average salaries reported in 2011 are almost 16 percent higher than in 2007 and 42 percent higher than in 2004. Consistent with the previous two surveys, only three percent of respondents indicate that their salary is not augmented by other benefits in 2011. The benefits most frequently identified are medical/dental insurance and retirement savings plans. This is also consistent in the 2004 and 2007 surveys.

2. Methodology

In order to gain a better understanding of the background of nurse informaticists, the issues they address on a daily basis and the tools they turn to for completing their jobs, HIMSS conducted a Web-based survey. Nurse informaticists were issued a series of electronic invitations in December, 2010 and January, 2011. A total of 660 usable responses were received to this survey.

3. About the Respondents

Less than half of the survey respondents (48 percent) reported that their primary workplace is a hospital while an additional 20 percent reported that they work at the corporate offices of a healthcare system. Nine percent work in an academic setting and five percent work for a consulting firm or a vendor. The remaining respondents work for a variety of organizations, including other provider types (i.e., ambulatory facilities, home health agencies), managed care/insurance companies or a government/military facility. This is similar in composition to the results from the 2004 and 2007 surveys.

Respondents were asked to identify their organization's annual gross revenue as of 2009. Among the respondents who provided a valid response of their organization's annual gross revenue, the breakout of survey respondents is identified below:

- Less than $250,000 – 5.67 percent;
- $250,000 to $499,999 – 2.06 percent;
- $500,000 to $999,999 – 5.67 percent;

- $1 million to $4 million – 12.37 percent;
- $5 million to $10 million – 12.37 percent;
- $11 million to $50 million – 20.10 percent;
- $51 million to $200 million – 19.59 percent;
- $201 million to $350 million – 8.76 percent;
- $351 million to $500 million – 9.79 percent;
- $501 million to $1 billion – 12.89 percent;
- More than $1 billion – 28.87 percent; and
- Not applicable (government/military) – 13.40 percent.

The annual revenue segmentations were expanded in the 2011 survey for additional granularity; therefore this metric is not comparable to the previous surveys.

The largest percentage of the survey respondents (20 percent) came from the South Atlantic[1] region, followed by the East North Central[2] (18 percent) and Pacific[3] (12 percent) regions. This is consistent with what was reported in previous years. Three percent of the respondents in 2011 reported that they worked outside of the United States.

Job Titles: As in previous surveys, the range of nursing titles for respondents to the 2011 survey is varied and mixed. Twenty (20) percent of respondents reported that they have a title of nursing informatics specialist while another 10 percent reported the title of clinical specialist. Compared to the 2007 survey, the title of nursing informatics specialist is used more often in the 2011 survey, while the use of the clinical specialist title showed a decrease in use. This suggests that the titles specific to informatics are becoming better defined in 2011, moving away from the generic title such as clinical specialist. Seven percent reported the title of consultant and five percent each identified project manager or director of nursing informatics.

Another way to look at titles is to examine the function that these titles allude to. More than one-third of respondents (37 percent) had a title that specifically identifies an informatics position (informatics or informaticist), which was slightly higher than the one-third of respondents reported in the 2007 survey.

4. Nursing Background and Education

Formal Education: In 2011, over half of the respondents (56 percent) reported earning a post-graduate degree.[4] This represents an increase from the 2007 survey, when 52 percent of respondents reported this to be the case. More specifically, one-third of respondents (35 percent) hold a Masters Degree in nursing and one percent holds a PhD in Nursing. Additionally, nearly one-quarter of respondents (24 percent) hold a Masters Degree in a field other than nursing; three percent of respondents hold a PhD in a field other than nursing.

The percentage of post graduates (those with Masters Degree and/or PhDs) increased from 52 percent in 2007 to 56 percent in 2011. This represents a statistically significant increase and marks a positive trend that nurse informaticist field continues to attract highly qualified and formally educated demographics.

[1] Includes DC, DE, FL, GA, MD, NC, SC, VA and WV
[2] Includes MI, WI, OH, IN and IL
[3] Includes AK, HI, WA, OR and CA
[4] Includes Master degree in nursing, Master degree in other field/specialty, PhD in nursing and PhD in other field/specialty

Nurse practitioners and licensed practical nurses are also represented in this sample at one percent each. This is very similar to the representation in the 2004 and 2007 survey.

Clinical Experience: Respondents were also asked to identify how many years of clinical experience at the bedside they have prior to embarking on a career as a nurse informaticist. Approximately half of the respondents in this sample have an extensive background in providing patient care; 46 percent of respondents reported spending at least 16 years at the bedside prior to becoming a nurse informaticist, with another 20 percent of respondents having 11 to 15 years of clinical experience. The remaining third of respondents (34 percent) have ten years of experience or less. While this is similar to the responses given by those individuals participating in the 2004 and 2007 surveys, respondents to the 2004 and 2007 surveys were somewhat more likely than those respondents in 2011 to have 16 or more years of experience.

Job Responsibilities-Clinical Setting: The respondents were asked to specify the setting in which they previously provided direct patient care. Critical care (44 percent) and medical/surgical (43 percent) were most frequently identified as the areas in which respondents have a nursing background. The 2011 survey is the first time since the 2004 survey that critical care mentions exceeded ICU and/or medical/surgical which were top mentions in previous surveys. Almost one-third of nurses (32 percent) indicated having a background in administration, while an additional 24 percent indicated the emergency department (ED).

Time Spent on Clinical Activities: Respondents were asked what percentage of their time is currently spent on clinical activities. More than three-quarters (77 percent) indicated that they rarely spend time on clinical activities. An additional 19 percent said that less than one-quarter of their time is spent on clinical activities. This is consistent to previous surveys in which the majority reported that they either devote little or no time to clinical activities. In fact, the percentage of those who indicated that they do not spend time on clinical activities increased from 71 percent in 2007 to 77 percent in 2011.

5. Nursing Informatics

Job Responsibilities: Less than half of the respondents in the 2011 survey (44 percent) reported that they have been in their current position for two years or less. More than one-quarter of respondents (26 percent) have been in their position for more than five years. This is somewhat consistent to the 2007 survey.

One-third (32 percent) indicated that they have received a promotion in the past two years, which is lower than what was reported in 2007 (40 percent). This information was not collected in the 2004 survey.

The scope of responsibility has not changed a great deal in the past three years as systems implementation and systems development are mentioned most frequently. In 2011, respondents were most likely to report that their primary job responsibility is systems implementation (57 percent), which includes preparing users, training and providing support. This was higher than what was identified in the 2007 survey (45 percent). This was followed by systems development at 53 percent (an increase from 41 percent in 2007), which includes customizing and/or updating a vendor system or developing and/or updating an in-house system. Quality initiatives, which include system evaluations/problem solving and quality improvement/patient safety, were the third most mentioned job responsibilities (31 percent). Quality initiatives are mentioned in the top three for the first time since the survey was initiated in 2004.

Among the least mentioned job responsibilities in 2011, professional billing was mentioned by only two respondents and direct patient care was identified by 12 respondents.

Duration of Informatics Career: Less than one-quarter of the respondents (22 percent) have spent two years or less as a nurse informaticist, with another 14 percent reporting that they have spent three or four years in this specialty. This is consistent with the results found in the 2007 survey. More than one-third of the nurses (39 percent) report spending ten or more years as a nurse informaticist. In 2004, only one-quarter of nurses reported that they had ten or more years of experience. This suggests an increase in the length of career as the discipline continues to mature.

Informatics Training and Certifications: In the 2011 survey, respondents were asked what education or training they received in informatics and then were asked what education or training they have enrolled in. The results regarding the lack of formal training/education are consistent with previous surveys. The majority of respondents in all the surveys indicated that they have no formal informatics/education training. Among those who indicated receiving a education or training for informatics, 15 percent said that they have earned a Master's degree in Nursing Informatics while another 15 percent said that they received on-the-job training for nursing informatics. As for those who indicated enrolling in a education/training program for informatics, on-the-job training was identified most frequently, by more than one-quarter of the respondents (26 percent), followed by seven percent who said that they are enrolled in a Masters degree program for nursing informatics.

Similar to the 2007 survey results, less than half of this year's respondents hold a certification in a nursing field (42 percent). In addition, 19 percent of the respondents reported having a certificate in nursing informatics offered through the American Nurses Credentialing Center (ANCC), while four percent said they were holding the CPHIMS certification offered by HIMSS. The rest indicated holding "other nursing specialty" certifications (16 percent). Other "specialty certifications" mentions include project management professional (PMP), and vendor-specific "certifications." Certified nurse-operating room and certified case manager were also among the top "other" certifications.

For the first time in 2011, respondents were asked to identify what certification, if any, they plan to pursue. About three in five mentioned (56 percent) that they anticipate pursuing some form of certification. More than one in three (35 percent) indicated that they are pursuing the nursing informatics certification offered by the ANCC. Among "other" specialty certifications mentioned, several said that they are choosing to pursue a project management certification. Although this is not a nursing specialty, it is a continuing education opportunity that is in the minds of several respondents.

Reporting Structure: More than half of the nurse informaticists continue to report to the IT department. The reporting structure for nurse informaticists has not changed substantially in the past three years. The top departments to which respondents identified that they report to are Information Technology (52 percent), Nursing (32 percent) and Administration (22 percent). No other area was reported by more than six percent of respondents. While these items were the top three areas to which nurse informaticists indicated they reported to in the past, there does appear to be a slight shift to Administration and away from Nursing. In 2007, Nursing was mentioned by 38 percent of respondents (compared to 32 percent in 2011) and Administration was mentioned by 17 percent (compared to 22 percent in 2011).

More than half of the respondents (61 percent) reported that they have no individuals that report to them in their role. This trend has remained unchanged from 2004 and 2007. Among the remaining respondents, nine percent mentioned that one to two individuals reported to them, while 16 percent indicated that three to five individuals reported to them. The remaining 14 percent of respondents mentioned that 11 or more people reported to them. This is about the same as the 2007 survey where 13 percent of respondents said 11 or more people reported to them.

6. Applications

Currently Developing/Implementing: Respondents were asked to identify the types of systems for which they were presently participating in the development or implementation process. They were most likely to identify nursing/clinical documentation, which was selected by 77 percent of respondents in 2011 (unchanged from 2007). The next highest applications selected were:

- Electronic medical/health records (62 percent)
- Computerized practitioner order entry (CPOE) (60 percent)
- Clinical information systems (58 percent)

Clearly, the focus of application experience has shifted to electronic medical/health records in the 2011 survey, since in 2007, electronic medical/health records was not among the top three highest mentions; it was identified by 57 percent of respondents. Clinical information systems slipped out of the top three mentions, which represents a departure from previous surveys where clinical information systems was among the highest mentioned applications (tied with nursing clinical documentation at 77 percent in 2007).

Nurse informaticists are least likely to be involved in the development or implementation of the following: utilization review, voice communications, voice recognition and practice management (seven percent each) and remote monitoring (six percent).

Applications Experience: In addition to identifying the areas with which they were presently developing or implementing solutions, respondents were also asked to identify those areas with which they had overall experience. Almost all of the respondents were most likely to report having experience with nursing clinical documentation systems (91 percent), followed by electronic medical/health records (76 percent), clinical information systems and CPOE (both at 72 percent).

Nearly half of the survey respondents (47 percent) reported that they have no experience in removing and/or replacing software in 2011, consistent to the 2007 data (45 percent). The top applications that respondents reported that they've removed or replaced are clinical nursing documentation (29 percent), clinical information systems (19 percent) and non-nursing clinical documentation (18 percent). This is consistent with the top three systems identified in 2007 and 2004.

7. Barriers to Success as a Nurse Informaticist

Respondents were asked to identify the areas that presented the largest barriers to them as a nurse informaticist (they were able to select two barriers). In 2011, almost one-third of respondents mentioned lack of integration/interoperability as one of the top two barriers, followed by lack of financial resources (26 percent) and lack of administrative support (23 percent). Because of changes to the question, it is not possible to compare the 2011 results to

results from past surveys. But in 2007, nearly two-thirds of respondents (65 percent) indicated that availability of financial resources was a top barrier. This was also the top barrier identified in the 2004 survey.

Respondents were least likely to identify HIPAA regulations as a barrier.

8. Sources of Information

In regards to the sources respondents find valuable in carrying out their day-to-day activities, a majority of respondents (73 percent) indicated that they are most likely to turn to websites. This was also the top source identified by nurses in the earlier surveys. More than two-thirds of respondents also indicated that networking with peers is an important tool. Rounding out the top three were journals, identified by 59 percent of respondents. Networking is the only source mentioned as one of the top three in 2011 that was not mentioned in 2004 and 2007.

Least frequently used as a day-to-day source are survey research, social networking and RSS feeds, all at one percent. Portals were listed as the least frequently used day-to-day source in 2007.

With respect to continuing education credits, respondents were asked to identify what sources they considered most valuable and sources they would consider for continuing education. As for what respondents think are most valuable, national conferences were mentioned the most by 28 percent. Although this question is asked differently from previous surveys, national conferences were also the top item selected in the 2004 and 2007 surveys.

Respondents were most likely to report that they are interested in audio conferences/webinars (68 percent) as a source of continuing education, followed by journals (61 percent) and websites or national conferences (both at 58 percent).

The least frequently identified source they consider as most valuable or for sources for continuing education was university programs (26 percent and six percent, respectively) in 2011.

Respondents also continue to be involved in professional associations. In the 2011 survey, 88 percent of respondents mentioned that they were a member of at least one professional association, which is consistent to the previous surveys. Similar to the responses from those who completed the survey in 2004 and 2007, 2011 respondents tended to belong to only one or two professional organizations.

Over half of the survey respondents are HIMSS members (55 percent) in 2011. This is followed by ANIA-CARING (52 percent) and Sigma Theta Tau International Honor Society for Nursing (39 percent). This is consistent with the 2007 survey.

9. Salary and Compensation

Respondents were asked to identify their base salary as of December 1, 2010. The average salary of the respondents in the survey was $98,703. This is substantially higher than the average salary identified in the 2007 ($83,675) and 2004 surveys ($69,500). This average does not include compensation received as a bonus or commission. The median salary reported in the sample was $88,000.

Respondents living in the New England ($123,611) and Pacific ($116,716) regions have the highest average salaries. All the other regions with the exception of West North Central have average salaries above $90,000. New England and Pacific were also mentioned as the top two regions for highest average salaries in 2007.

As in 2007, the 2011 respondents working at consulting firms have the highest average salary ($153,576). This is followed by those who work at vendor organizations ($108,773). Unlike in 2007 data, respondents working in an academic setting currently have one of the higher average salaries at $101,346.

In addition, individuals who have supervisory responsibilities (having one or more person reporting to the respondent) have higher average salaries ($110,959) than those who do not ($90,729).

Respondents who have a certification in nursing informatics have higher average salaries ($119,644) than do those respondents who do not have certification for nursing informatics ($93,787). Those respondents with CPHIMS certification also have higher average salaries ($110,291) compared to those that do not have CPHIMS ($98,198).

In addition to their salary, the majority of nurse informaticists receive additional forms of compensation. More specifically, 88 percent mentioned that medical/dental insurance is one of their benefits, which represents a decrease from the 94 percent of respondents who reported this to be the case in 2007. Another 86 percent identified access to a 401(k) or 403(b) retirement savings plan. Only three percent of the respondents reported that they receive no benefits as a result of their current employment status. Other benefits received in 2011 include:

- Life insurance – 81 percent;
- Long-term disability insurance – 66 percent;
- Tuition reimbursement – 66 percent;
- Short-term disability insurance – 54 percent;
- Healthcare savings account – 48 percent;
- Bonus – 34 percent;
- Money purchase pension plan – seven percent; and
- Profit sharing plan – four percent.

The benefits findings in 2007 were consistent to 2011. It's interesting to note, however, that the percent of respondents receiving a bonus increased slightly from 30 percent in 2007 to 34 percent in the 2011 survey.

10. Questions to Consider for Future Surveys

The respondents were asked to identify any interesting topics they would like to learn more about. As expected, the top two topics focused on informatics as the primary theme. More than half mentioned clinical informatics (59 percent), while about half (48 percent) mentioned nursing informatics as a professional discipline. Two in five said they would like to know more about evidence-based practice (41 percent).

The respondents were given the opportunity to state questions they would like to see included in the next Nursing Informatics Workforce Survey. The questions varied between roles of nursing informatics in different healthcare environments and exploring the role of nursing informatics and meaningful use criteria.

11. Conclusion

Based on this survey and compared to the surveys conducted in 2004 and 2007, the healthcare industry is recognizing the value of Nursing Informatics. One metric in particular speaks volumes to the importance of nurse informaticists in the healthcare industry: base salary. The level of base compensation this year is significantly more than the data generated in the past two surveys, with an average salary of nearly $100,000 (and even higher in consulting and in vendor settings), which is impressive considering the current economic landscape. Compared to the average salary in 2004 ($69,500) and in 2007 ($83,675), the average salaries reported in 2011 are almost 17 percent higher than in 2007 and 42 percent higher than in 2004. Future surveys will determine whether the base compensation ceiling has been reached.

The percentage of post graduates (those with Masters Degree and/or PhDs) increased from 52 percent in 2007 to 56 percent in 2011. This represents a statistically significant increase and marks a positive trend that nurse informaticist profession continues to attract highly qualified and formally educated demographics.

Finally, it's worth noting that the 2011 respondents tended to have less clinical experience than their 2007 and 2004 counterparts, but they have had more experience as nurse informaticists. About two in five nurse informaticists in the 2011 survey have been in this position for ten years or more, compared to one-third in 2007 and one-quarter in 2004.

12. About HIMSS

HIMSS is a cause-based, not-for-profit organization exclusively focused on providing global leadership for the optimal use of information technology (IT) and management systems for the betterment of healthcare. Founded 50 years ago, HIMSS and its related organizations have offices in Chicago, Washington, DC, Brussels, Singapore, Leipzig, and other locations across the United States. HIMSS represents more than 30,000 individual members, of which two thirds work in healthcare provider, governmental and not-for-profit organizations. HIMSS also includes over 470 corporate members and more than 85 not-for-profit organizations that share our mission of transforming healthcare through the effective use of information technology and management systems. HIMSS frames and leads healthcare practices and public policy through its content expertise, professional development, and research initiatives designed to promote information and management systems' contributions to improving the quality, safety, access, and cost-effectiveness of patient care. To learn more about HIMSS and to find out how to join us and our members in advancing our cause, please visit our website at www.himss.org.

13. How to Cite This Study

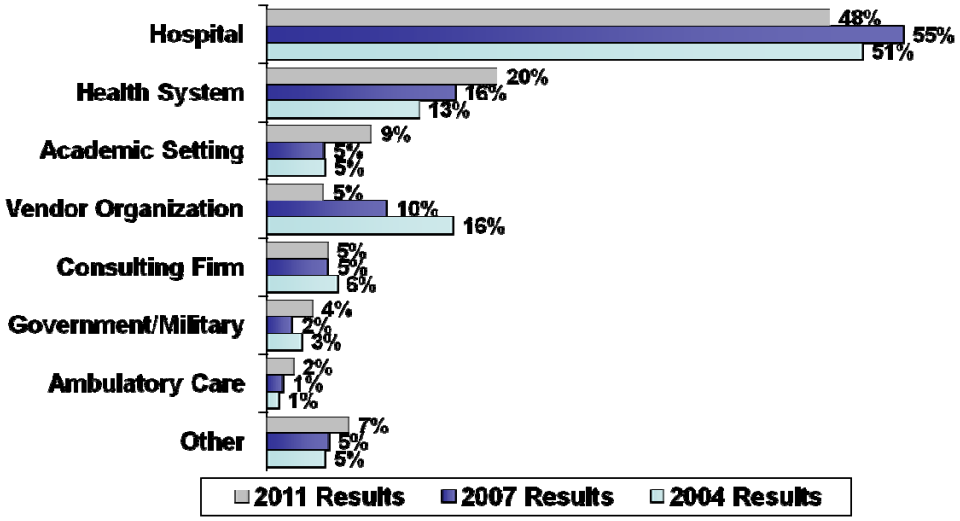
Individuals are encouraged to cite this report and any accompanying graphics in printed matter, publications, or any other medium, as long as the information is attributed to the HIMSS 2011 Nursing Informatics Workforce Survey.

14. For more information, contact:

HIMSS
Joyce Lofstrom
jlofstrom@himss.org
312-915-9237

Appendix of Figures

Primary Workplace



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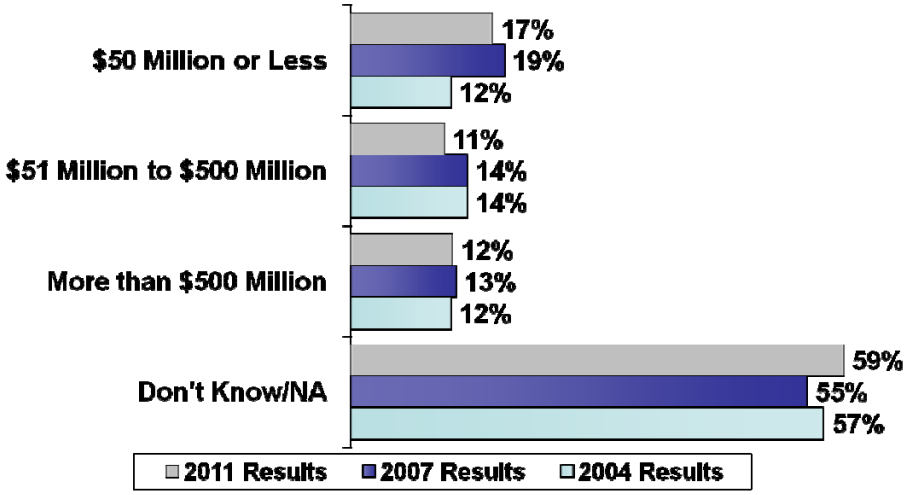
Organizational Revenue



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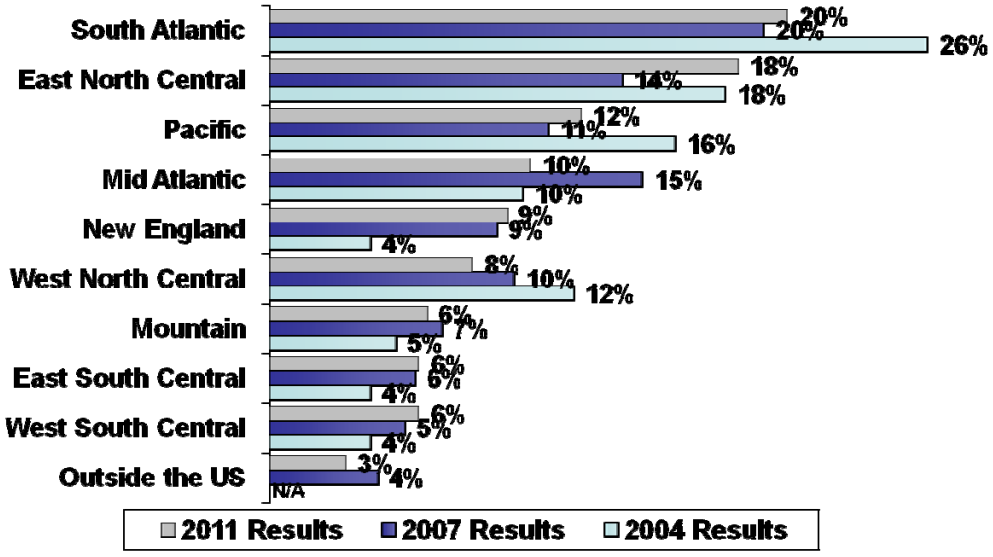
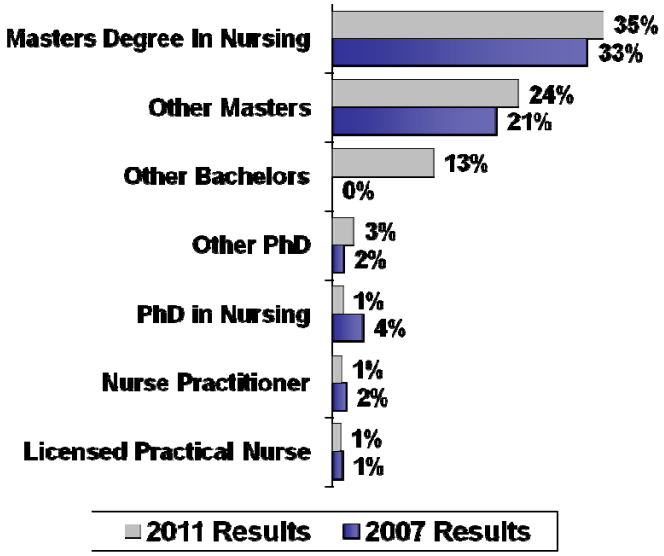
Geographic Region



Nursing Education



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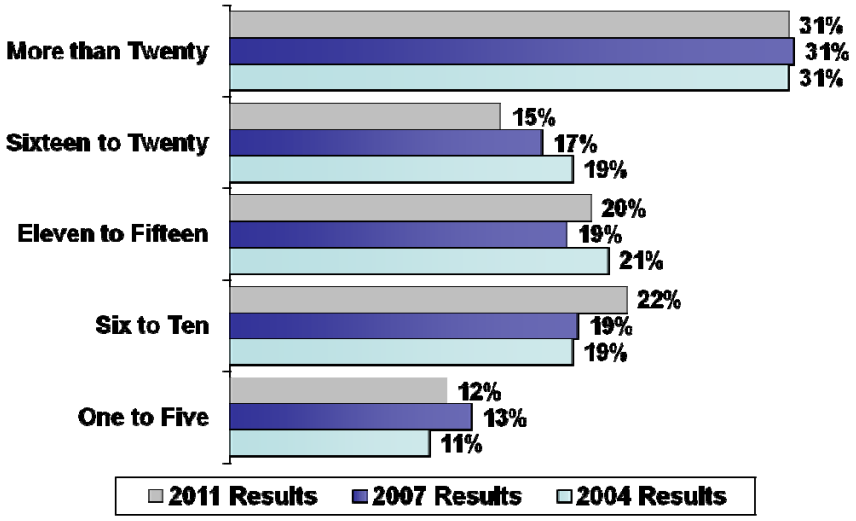
Only highest degree is shown.

Years of Clinical Experience



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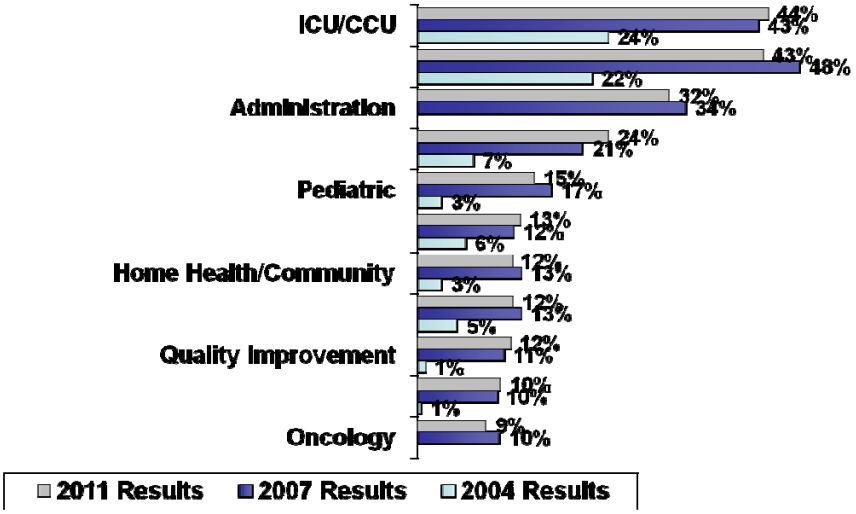
Nursing Experience



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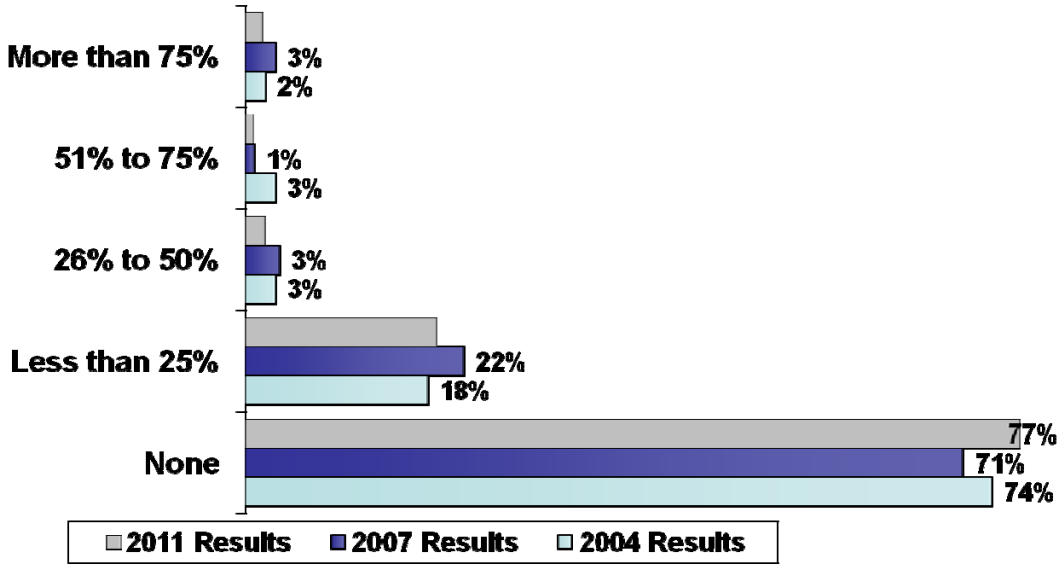
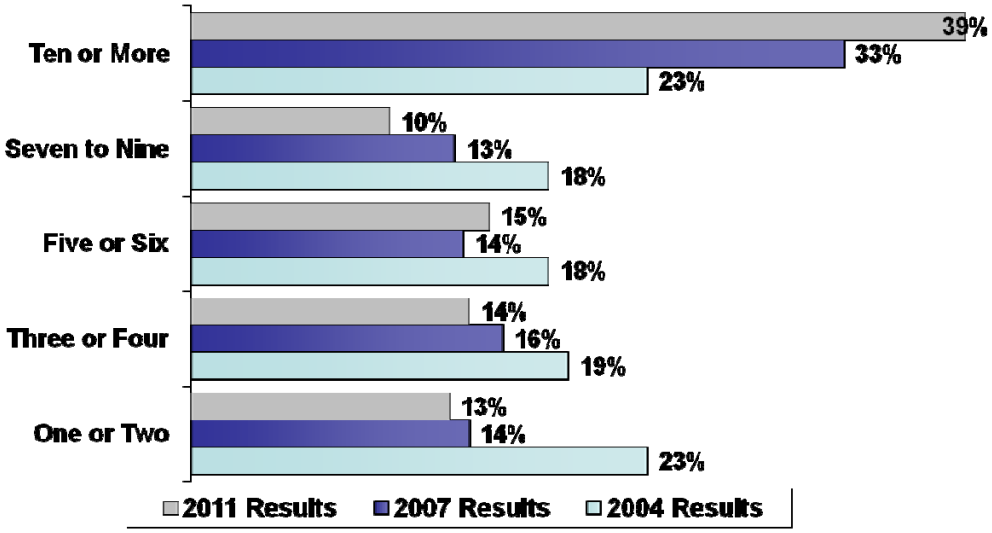
Percent of Time Devoted to Clinical Activities



Years of Informatics Experience



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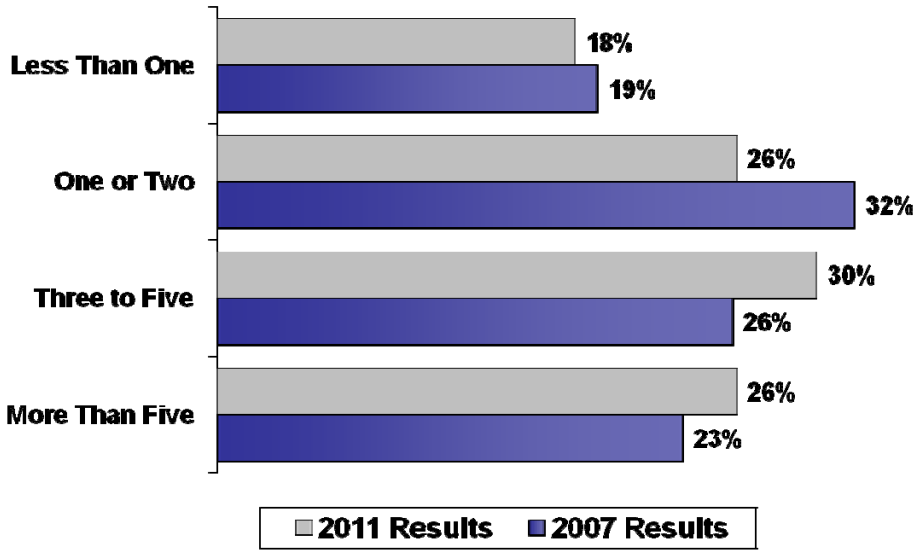
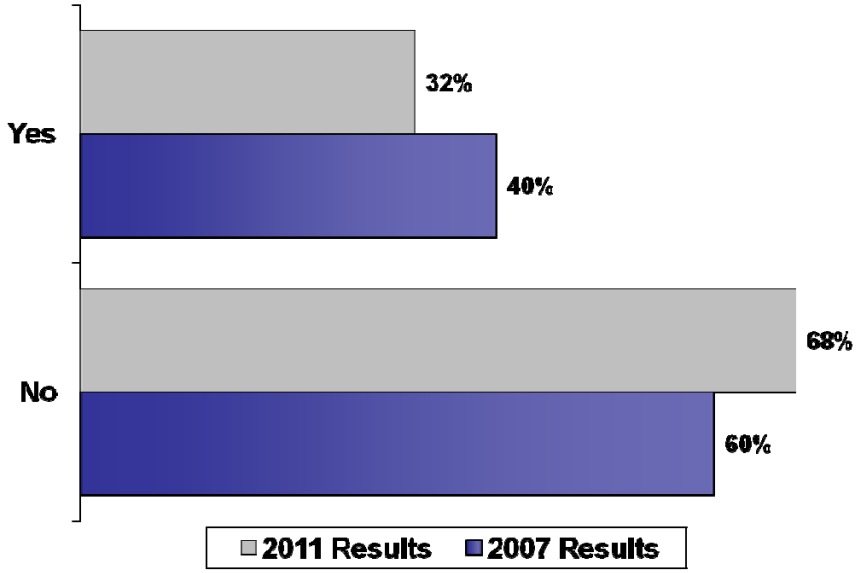
Years in Current Position



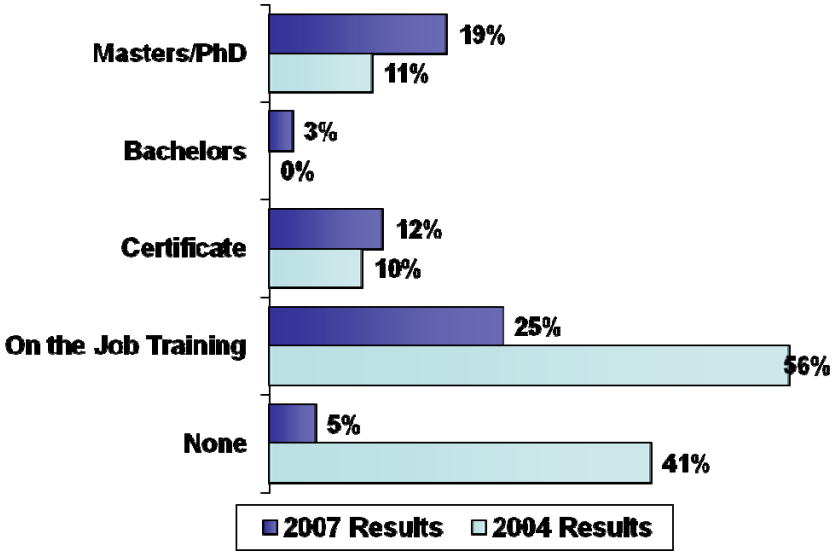
This question was not included in the 2004 survey.

Promoted in Last Two Years



This question was not included in the 2004 survey.

Training as Nurse Informaticist



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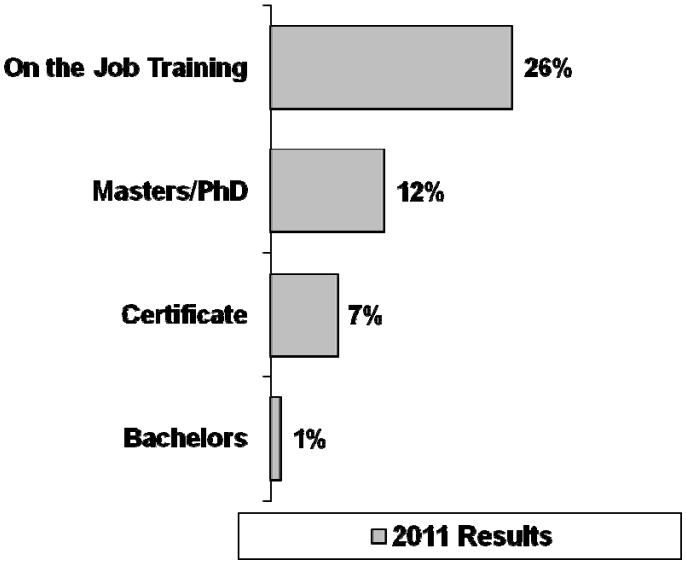
Training as Nurse Informaticist-Enrolled in 2011



This question revised in 2011.

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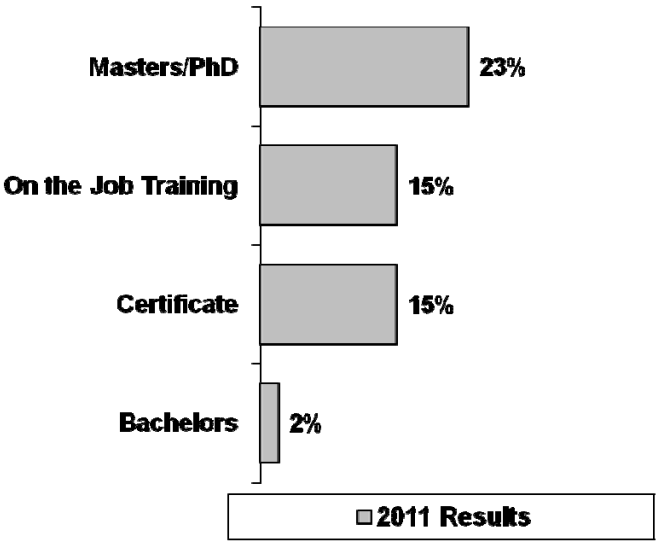
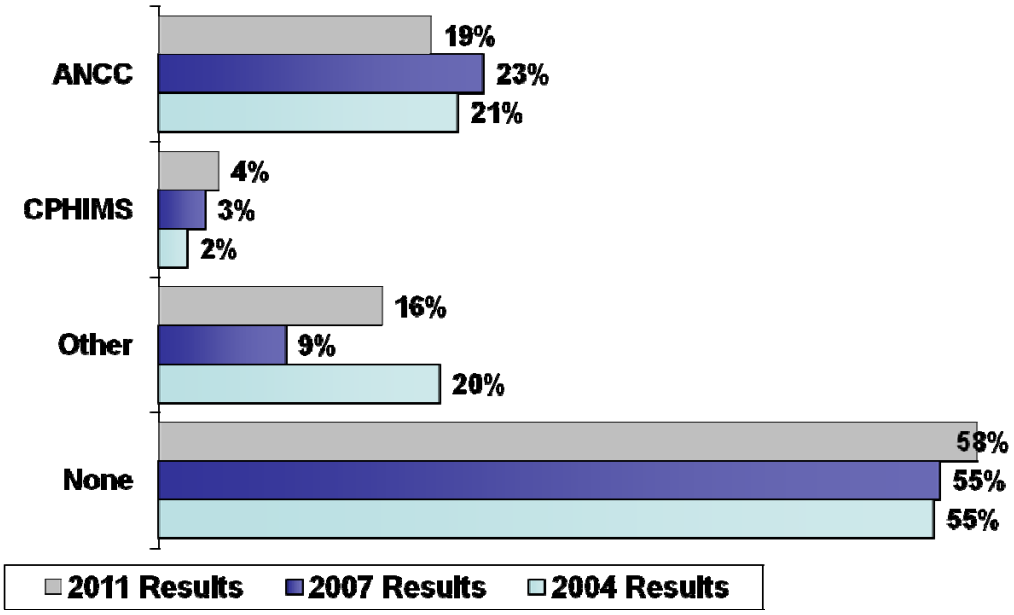
Training as Nurse Informaticist – Degree Earned in 2011

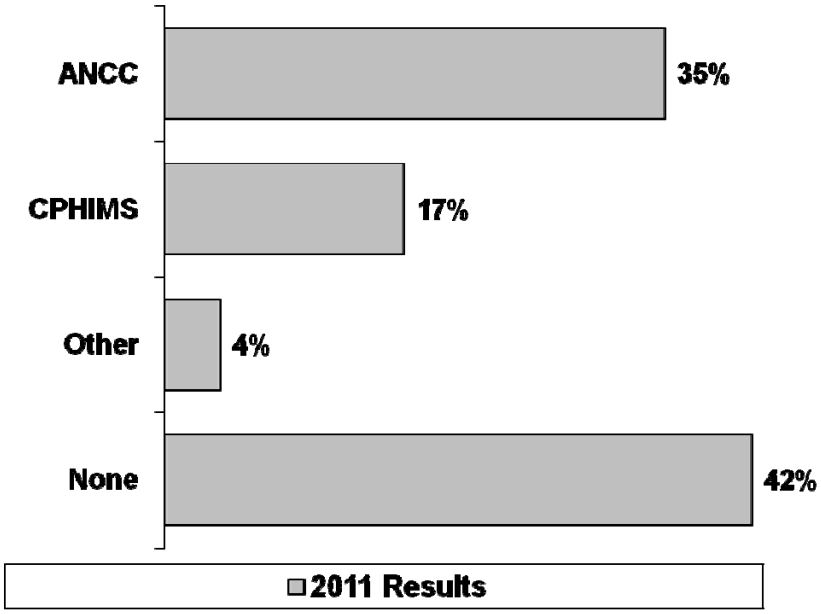


This question revised in 2011.

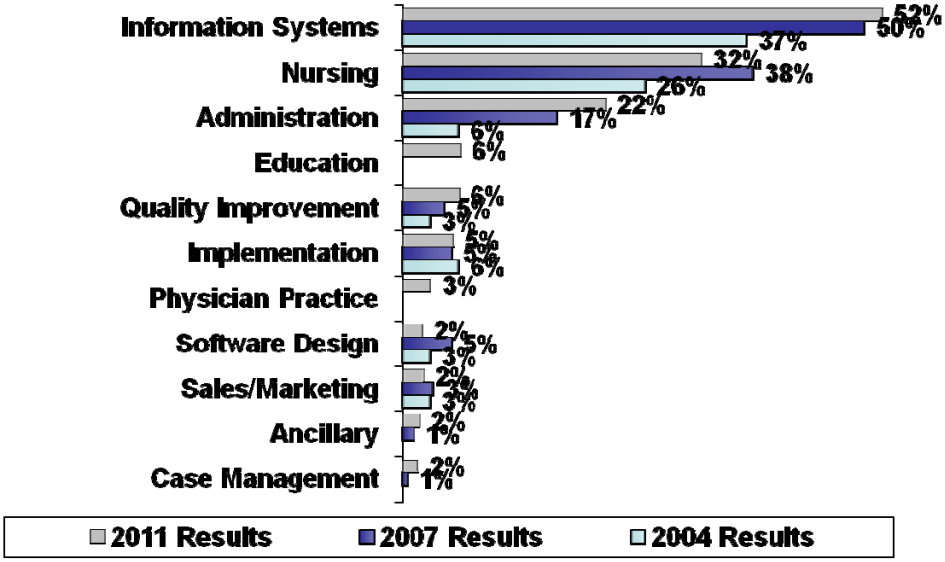
Nursing Informatics Certification



Nursing Informatics Certification – Anticipate Obtaining



To Which Department Do You Report?



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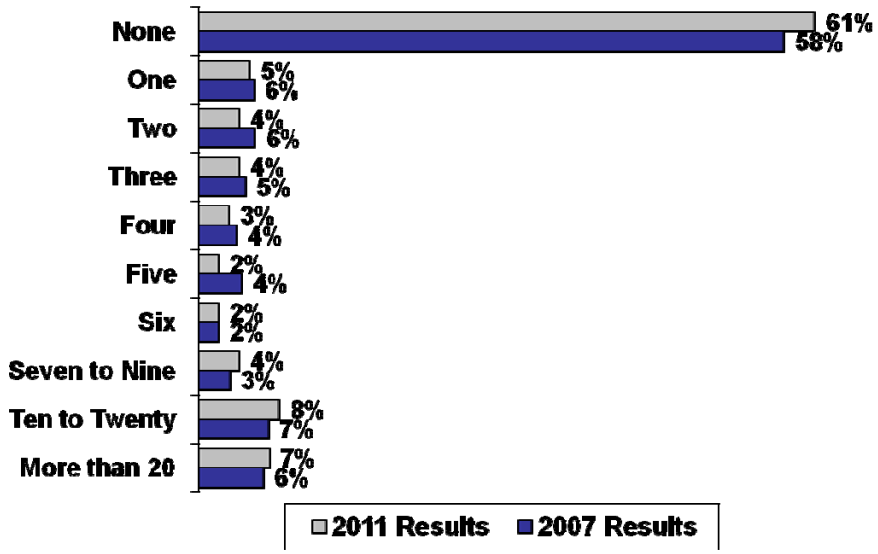
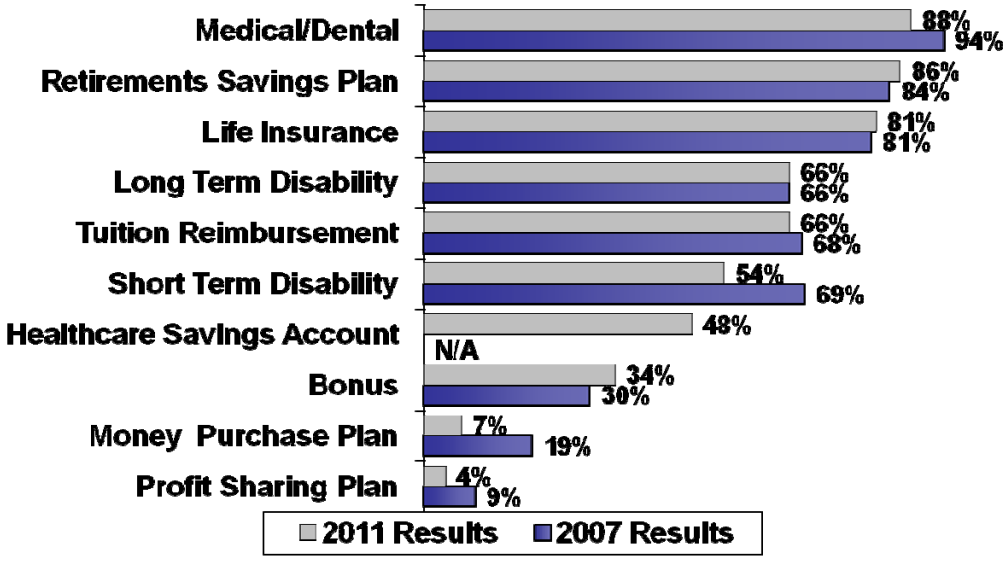
Number of Reports
(Direct &Indirect)



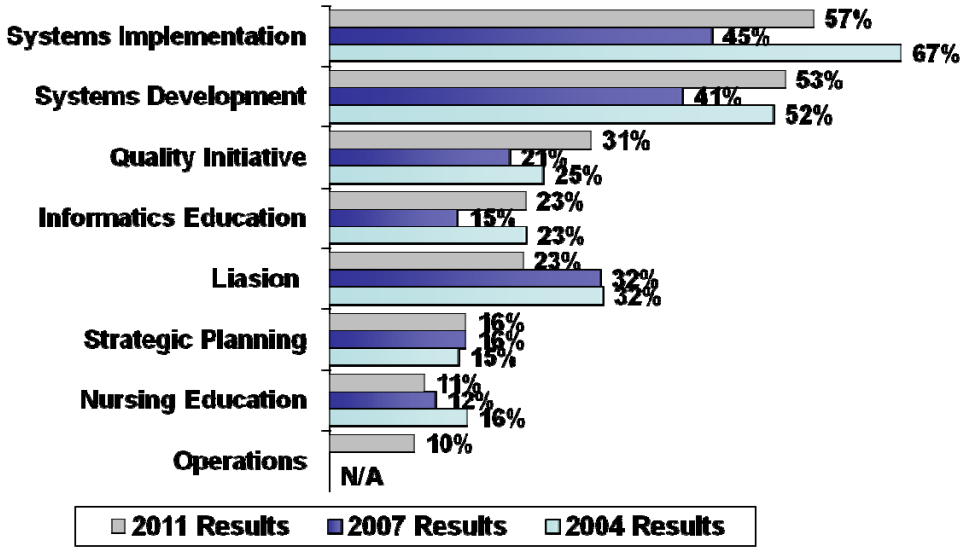
This question was not included in the 2004 survey.

Benefits and Non-salary Compensation



This question was not included in the 2004 survey.

Top Three Job Responsibilities



Top 2011 eight responses shown.

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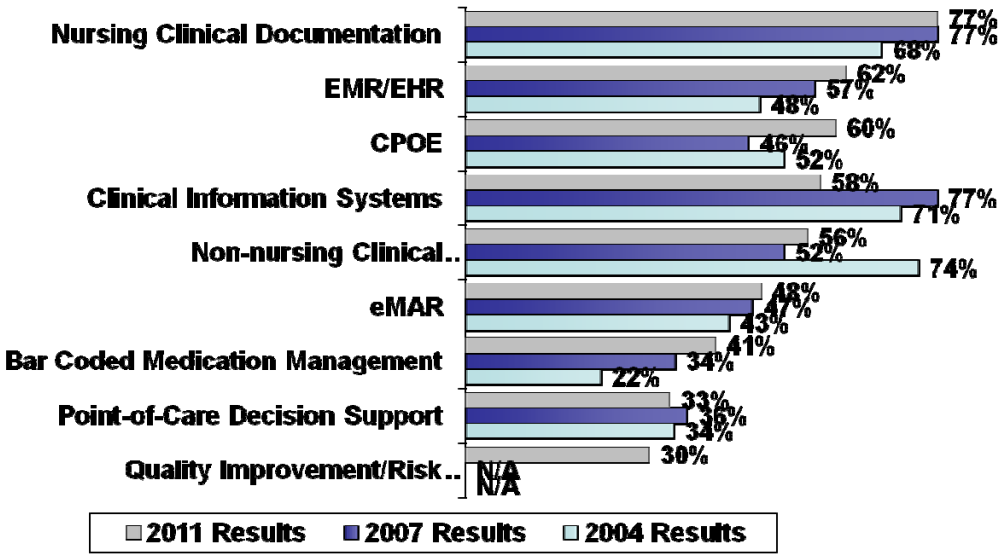
Which Applications do you Currently Participate in Developing/Implementing



Top 2011 nine responses shown.

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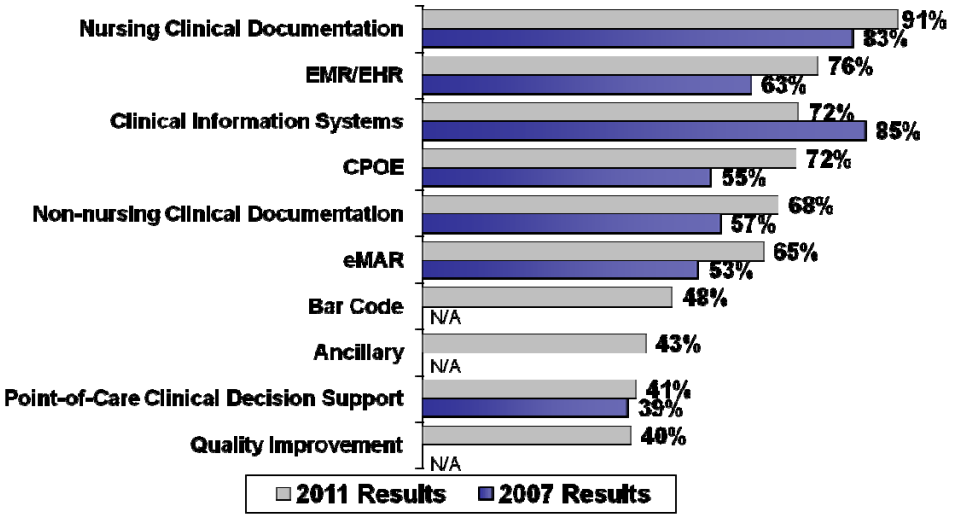
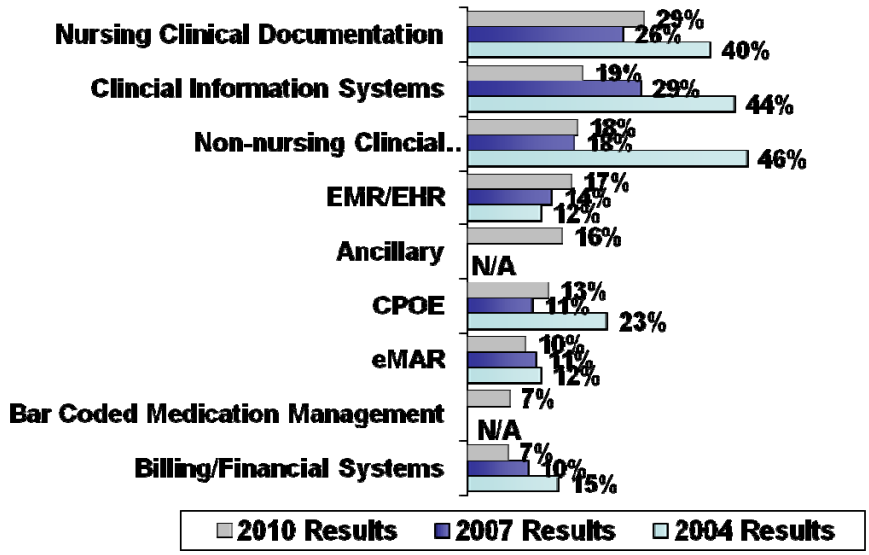
Which Applications do you Have Experience With



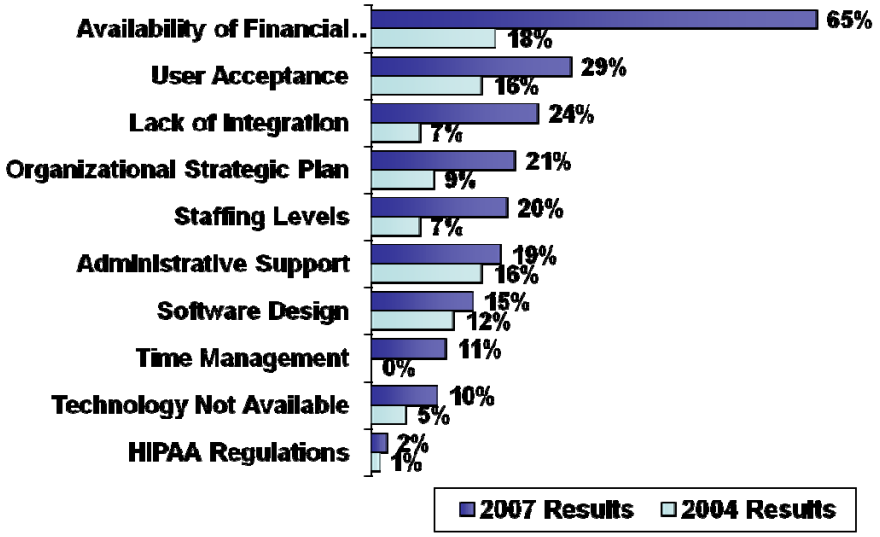
Top responses in 2011 shown.

Which Applications Have you Removed or Replaced



Top eight in 2011 responses shown.

Largest Barrier to Success as a Nurse Informaticst



Top ten in responses shown.

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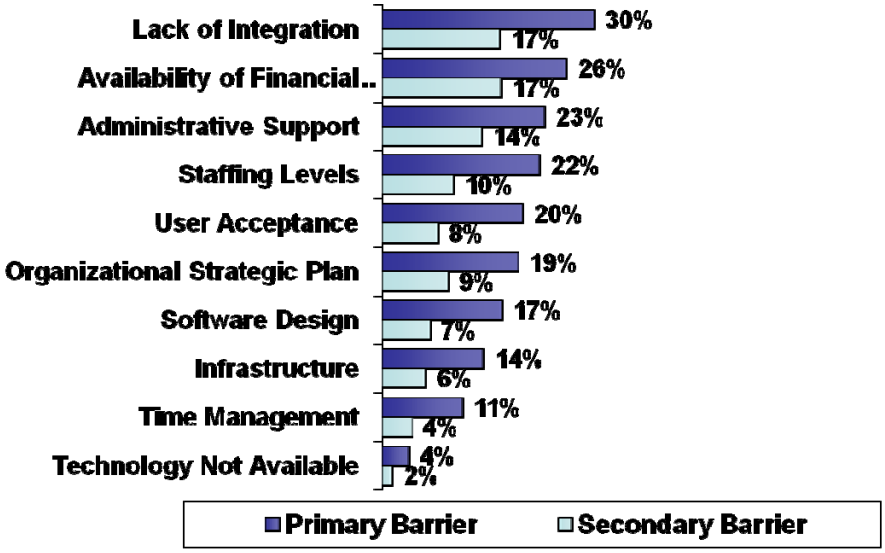
Primary and Secondary Barriers to Success as a Nurse Informaticst-2011



This question revised in 2011. Top ten responses shown.

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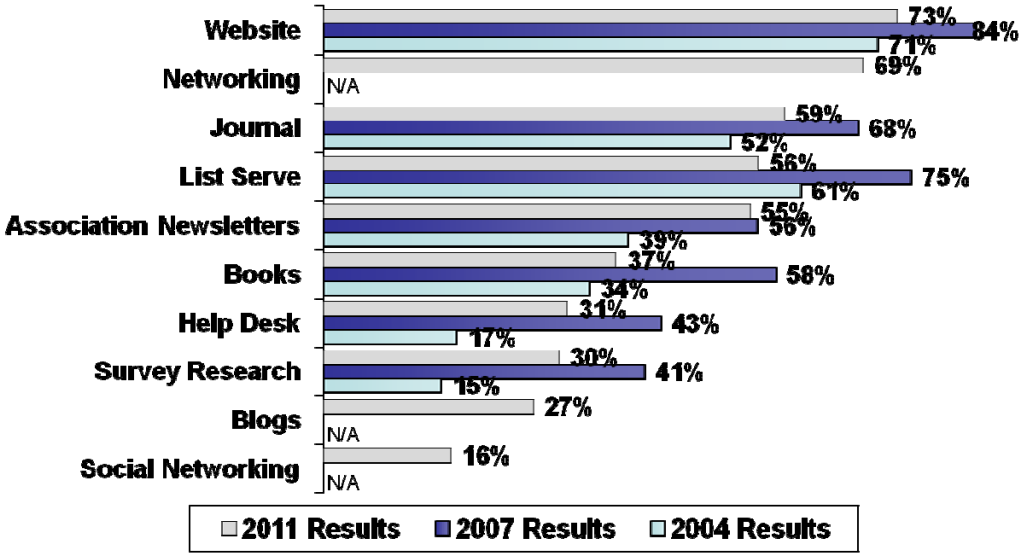
Sources of Information
(Day to Day Responsibilities)



Top ten in 2011 responses shown.

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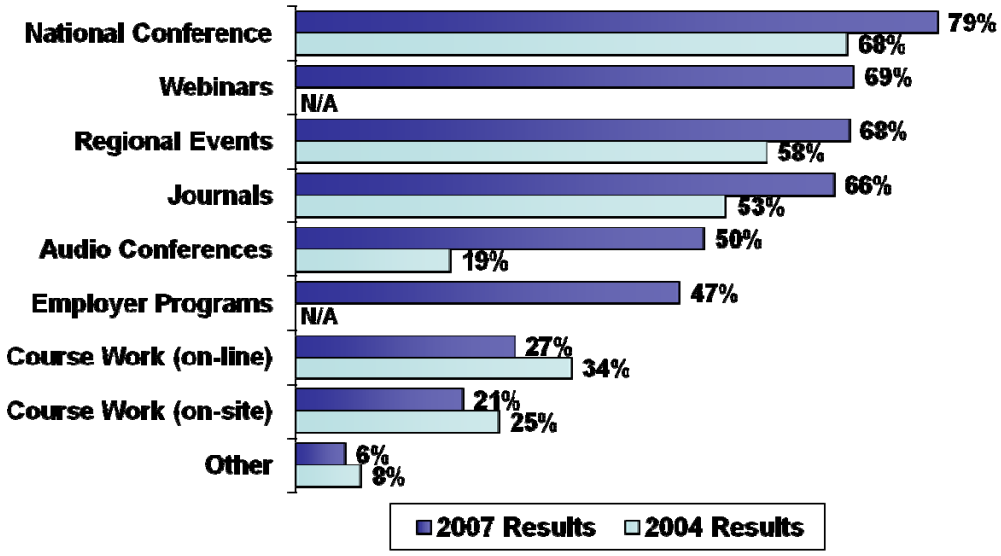
Resources for Continuing Education



Top ten responses shown.

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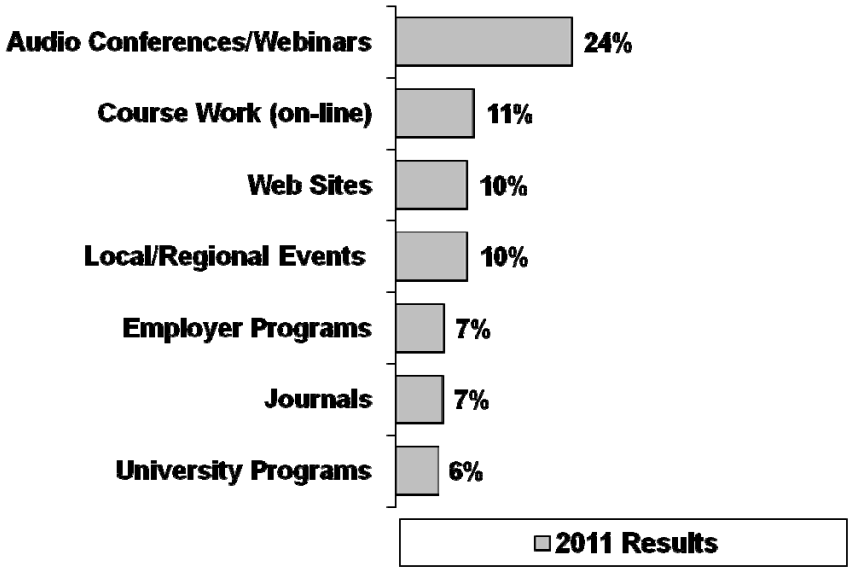
Most Valuable Resource for Continuing Education - 2011



This question was revised in 2011. Top responses shown. © HIMSS

Sources for Continuing Education - 2011