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2013 HIMSS iHIT Survey

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2013 HIMSS iHIT Report

Final Report

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In 2006, the HIMSS Nursing Informatics Community surveyed acute care providers across the United States to explore the impact of health information technology (HIT) on the role of nurses and interdisciplinary communication in acute care settings. This study, published in 2006, focused on four key areas, including the general advantages of HIT, the workflow implications of HIT, the information tools used to support communications tasks and the information tools used to support information tasks.

This 2013 report expands upon the initial report. First, this report contains information on two key additional informatics audiences – pharmacists and physicians. Second, this report moves beyond the acute care setting to determine how HIT impacts the communications of clinicians in a multitude of care delivery settings, including outpatient facilities.

Contents

1. Executive Summary

Health information technology (HIT) has the ability to provide enhanced access to the clinical information needed to support patient care. Since the iHIT Study was last released in 2006, organizations have become increasingly sophisticated in technological solutions in place at their organization. According to the HIMSS Analytics Electronic Medical Record Adoption Model (EMRAM)SM, at the end of 2006, less than one-quarter of U.S. hospitals (22 percent) had achieved EMRAM Stage 3 or higher on the EMRAM model; by the end of 2012, more than three-quarters of U.S. hospitals (77 percent) had achieved a minimum of EMRAM Stage 3. [1] EMRAM Stage 3 represents an important threshold because it represents the minimum level at which organizations begin to use key nursing applications such as clinical documentation and clinical decision support with error checking.

Greater levels of implementation of key clinical applications provide the opportunity for clinicians to have improved access to the information they need at the patient's bedside in order to provide quality care. A recent study found that physician adoption of a computerized provider order entry (CPOE) system that generates a checklist of best practices for preventing blood clots effectively reduced preventable events in trauma patients.[2]

Research conducted during the 10 year period of 1995-2005 has demonstrated that ineffective team communication is the root cause for nearly 66 percent of all medical errors.[3] When healthcare team members do not communicate effectively, patient care often suffers.[4]

In order to better assess the impact of HIT on communication, HIMSS & HIMSS Analytics replicated the 2006 iHIT Nursing Study. The 2013 iHIT Study explores the ability of HIT to provide enhanced access to clinical information needed to support patient care from an interdisciplinary perspective of nurses, pharmacists and physicians.

Based on the responses of 507 individuals from the 2013 iHIT Study, the HIT tools in place at their organizations support various clinical processes and provide improved access to the information needed to prepare for delivery of care. This includes having improved access to information needed on patients transferring to a clinician's unit/caseload, ultimately resulting in enhanced levels of patient care.

[1] HIMSS Analytics EMRAM Model http://www.himssanalytics.org/emram/index.aspx
[2] http://www.ihealthbeat.org/articles/2012/10/17/cpoe-implementation-improves-blood-clot-treatment-study-finds.aspx
[3] Team strategies and tools to enhance performance and patient safety (TeamSTEPPS), Department of Defense and Agency for Healthcare Research and Quality http://www.ahrq.gov/qual/teamstepps/
[4] ibid

Key survey findings include:

General advantages of HIT: 70 percent of respondents were likely to note that HIT benefitted their overall ability to provide care efficiently, including the ability to have the information needed to understand their daily caseload.

Workflow implications of HIT: There is a high level of agreement (83 percent) among survey respondents regarding the role that HIT can play relative to the support of clinical processes, including the ability to provide quality care.

Magnet status: Responses from Magnet designated hospitals scored higher on the iHIT response scale, ranging between 4 and 8 points, than responses from non-Magnet designated facilities. Magnet recognizes healthcare organizations for quality patient care, nursing excellence and innovations in professional nursing practice.[5]

Information provided by HIT: 80 percent of respondents were highly likely to indicate that the information provided through the HIT tools available at their organization helped clinicians process data and improved access to information needed to provide safe patient care.

Pharmacy response: Pharmacists were far more likely than their physician or nurse counterparts to suggest that they found benefit from the use of HIT.

Ability to independently make decisions: Respondents working in technologically complex organizations were most likely to agree with the statement that access to information electronically has improved their ability to independently make decisions than those working for facilities with a less complex IT environment.

Key opportunities for clinical informatics:

Workflow & end of shift reporting: Less than one-third of respondents indicated that HIT applications have decreased the amount of time they need for preparing end of shift reports.

Assurance between colleagues: Only half of respondents indicated that the acknowledgement features of the HIT tools at their organization provide adequate assurance that interdisciplinary colleagues are receiving appropriate communications.

[5] http://www.nursecredentialing.org/magnet.aspx

2. Methodology

A total of 507 individuals completed this survey. Data was collected via a web-based survey from December 10, 2012 through January 15, 2013. The Web-based survey was sent to HIMSS members who had self-identified themselves as a nurse, physician or pharmacist. To increase the sample size, the survey invitation encouraged individuals to send the invitation to their colleagues. Invitations were also sent by organizations that sponsored and supported this research. These organizations include:

- AMIA (American Medical Informatics Association)
- ANI (Alliance for Nursing Informatics)
- AORN (Association of Perioperative Registered Nurses)
- ASHP (American Society of Health System Pharmacists)
- AWOHNN (Association of Women's Health, Obstetric and Neonatal Nurses)
- eHealth DC
- HIMSS New Jersey & New York Chapters
- NCPDP (National Council for Prescription Drug Programs)
- NENIC (New England Nursing Informatics Consortium)
- Wisconsin Health Information Technology Extension Center (WHITEC)

Because the audience for the 2013 study includes a wider audience than the nurses that comprised the 2006 study, direct comparisons to the earlier study will only be showcased in the event that there were statistically significant differences between the nurses, physicians and pharmacists responding to this study.

3. Profile of Survey Respondents

Respondents were asked a number of questions about their demographic background. The group responding to this survey will be profiled below and comparisons will be made as appropriate to the study released in 2006.

Primary Work Site and Facility Demographics

This year's study was designed to include respondents from a wide variety of healthcare facilities. Respondents were most likely (85 percent) to report working for a hospital-based organization. This includes hospitals that are part of a multi-hospital system (46 percent), a healthcare system (25 percent) or a stand-alone hospital (14 percent). Another eight percent of survey respondents reported working for an outpatient setting. The remaining respondents worked for other organization types, such as long-term care facilities, home health agencies, health information exchanges or mental/behavioral health facilities.

Among those respondents working for an inpatient facility, the average number of licensed beds was 680. The median number of beds is 350. This disparity indicates that

some of the respondents in this study work for extremely large organizations; indeed, 59 respondents (12 percent of entire sample) work for an organization with 1,000 or more licensed beds.

The average number of outpatient visits among respondents working at ambulatory facilities was 69,370. The median number of outpatient visits among respondents was 14,000.

The American Nurses Credentialing Center (ANCC) Magnet Recognition Program® recognizes healthcare organizations for quality patient care, nursing excellence and innovations in professional nursing practice.[6] One-quarter of respondents indicated that their facility was a Magnet hospital.

Clinical Specialty

This year's study encompassed three major clinical specialties – nurses, physicians and pharmacists. The majority of survey responses indicated that their clinical background was nursing (68 percent). Pharmacists comprised 22 percent of the sample and physicians made up the remaining 11 percent of the sample. Statistically significant differences among these types of clinicians will be identified throughout this report.

In addition, each group was asked to identify the type of role they hold within their clinical specialty. Tables One through Three below indicate the number of respondents within each category identifying each position.

Nursing Positions	Number	Percent
Corporate Nursing Executive	3	0.9%
Facility Level Nursing Executive	7	2.0%
Chief Nursing Information Officer	13	3.8%
Department Head/Director	28	8.1%
Informatics Professional	158	45.8%
Nurse Manager	22	6.4%
Staff Nurse	84	24.4%
Other	30	8.7%
Total	345	100.0%

Table One.

[6] http://www.nursecredentialing.org/magnet.aspx

Physician Positions	Number	Percent
Corporate Physician Executive	6	11.5%
Facility Level Physician Executive	5	9.6%
Chief Medical Information Officer	17	32.7%
Department Head/Director	4	7.7%
Informatics Professional	3	5.8%
Physician	17	32.7%
Total	52	100.0%

Table Two.

Pharmacy Positions	Number	Percent
Corporate Level Pharmacy Executive	7	6.4%
Facility Level Pharmacy Executive	2	1.8%
Director of Pharmacy	8	7.3%
Informatics Professional	68	61.8%
Patient Care Pharmacist	9	8.2%
Manager/Team Leader	11	10.0%
Other	5	4.5%
Total	110	100.0%

Table Three.

In order to evaluate the differences between the broader categories, regardless of specialty type, these categories were collapsed into five broad categories.

1. Clinician Executive (includes corporate and facility level executives and CMIO/CNIO)
2. Department Head/Manager (includes all director/manager titles)
3. Informatics Professionals
4. Staff Nurse/Physician/Pharmacist (includes patient care pharmacists, physicians and staff nurses)
5. Other (any response item not included above)

Nearly half of the sample (45 percent) is comprised of informatics professionals, followed by staff clinicians (22 percent) and department heads/managers (14 percent). The rest of the sample is comprised of executives (12 percent) and other clinicians (seven percent). Statistically significant differences in these types of positions will be identified throughout this report.

Percent of Time Devoted to Clinical Activities

Respondents were asked to identify what percent of their time is devoted to clinical activities. Three-quarters of respondents reported that they spend at least some of their time on patient activities. Outlined in Table Four below is the percent of respondents that have varied levels of clinical responsibilities.

Percent of Clinical Responsibility	Number	Percent
None	136	26.8%
Less than 10 Percent	80	15.8%
10 to 25 Percent	76	15.0%
26 to 50 Percent	53	10.5%
51 to 75 Percent	52	10.3%
76 to 99 Percent	69	13.6%
100 Percent	41	8.1%
Total	507	100.0%

Table Four

For the purposes of this research, these responses have been dichotomized into two categories. The first category contains the 27 percent of respondents that have no clinical responsibilities. The second category contains the 73 percent of respondents that have at least some clinical responsibilities. Statistically significant differences in these categories will be identified throughout this report.

Highest Degree

Respondents were asked to identify the highest level of education that they had received. More than half of the respondents indicated that they hold at least a master's level degree. The table below outlines the degrees held by survey respondents.

Highest Degree Earned	Number	Percent
Associate's Degree	56	11.0%
Bachelor's Degree	151	29.8%
Master's Degree	166	32.7%
Doctoral Degree	128	25.2%
Other	6	1.2%
Total	507	100.0%

Table Five

Region

Each respondent was asked to identify the state in which they worked. These states were then rolled up into five broader regional categories, as outlined in the 2006 study. In the 2013 study, 36 percent of respondents came from the Southwestern[7] states. Another 35 percent reported coming from the Northeastern[8] states and 20 percent of respondents came from the Southeastern[9] states. Nine percent came from the Northwestern[10] states and less than one percent reported living in either Alaska or Hawaii.

Number of Years in Profession

Respondents were asked to identify the number of years they have been in their profession (see Table Six below). More than half of respondents (59 percent) reported that they have been in their profession for at least 20 years. Only seven percent of respondents reported that they had been in their profession for less than five years.

Number of Years in Profession	Number	Percent
Less than Five Years	34	6.7%
Five to Nine Years	49	9.7%
10 to 14 Years	62	12.2%
15 to 19 Years	62	12.2%
20 or More Years	300	59.2%
Total	507	100.0%

Table Six

Job Responsibilities

Added to the survey this year, respondents were asked to identify the responsibilities related to HIT that were part of their job. Nearly 90 percent of respondents indicated that they had some job responsibilities that related to HIT. On average, the individuals in this study play a role in 4.24 of these job responsibilities. Among respondents that have at least some HIT responsibilities, respondents were most likely to indicate that they play a role in system implementation. They were least likely to report playing a role in system selection. A full list of roles is listed in the table below.

[7] Southwestern States – California, Nevada, Utah, Colorado, Arizona, New Mexico, Texas, Oklahoma, Arkansas, and Louisiana
[8] Northeastern States – Wisconsin, Illinois, Indiana, Michigan, Ohio, Pennsylvania, New York, Delaware, Maryland, New Jersey, Connecticut, Massachusetts, Rhode Island, Vermont, New Hampshire and Maine.
[9] Southeastern States – Florida, Georgia, Alabama, Mississippi, Tennessee, Kentucky, South Carolina, North Carolina, Virginia and West Virginia.
[10] Northwestern States – Washington, Oregon, Idaho, Montana, South Dakota, North Dakota, Nebraska, Minnesota, Iowa, Missouri, Wyoming, and Kansas.

HIT Job Responsibilities	Number	Percent
System Implementation	336	74.3%
System Optimization	305	67.5%
System Super User	304	67.3%
System Training	304	67.3%
System Maintenance	220	48.7%
System Design	218	48.2%
System Selection	193	42.7%
Total	452	100.0%

Table Seven

4. HIT Environment

The majority of respondents work for healthcare organizations that have a fairly sophisticated IT environment, with applications installed in at least 15 of the applications categories tracked in this report. Respondents have a slightly higher than average level of satisfaction with the types of applications and tools with them, as well as a slightly higher than average level of satisfaction with the level of training available.

Respondents were asked a number of questions regarding the use of HIT at their environment, including the range of applications installed at their healthcare facilities and their level of satisfaction with both the types of applications in place and the level of satisfaction with the level of training provided for those applications.

First, respondents were asked to identify the types of applications that are currently installed at the healthcare facilities at which they work. On average, respondents indicated that they had 11.78 applications out of 15 applications installed at their organizations.

Nearly 90 percent of respondents indicated that their organization has some of the components of an electronic medical record (EMR) installed. The survey clarified the EMR category to include CPOE (computer-based provider order entry), clinical decision support (CDS), clinical data repository or data warehousing systems. Respondents were also highly likely to report using technology for nursing, laboratory and other ancillary departments such as the Emergency Department, ICU, obstetrics, oncology or the operating room.

Respondents were least likely to report using home health systems. The number of respondents identifying each type of application installed at their facility is included in the table below.

Applications	Number	Percent
Electronic Medical Records	455	89.7%
Nursing	440	86.7%
Laboratory	408	80.5%
Ancillary Clinical Systems	406	80.0%
PACS	383	75.5%
Ambulatory Care Applications	372	73.4%
Human Resources	361	71.2%
Electronic Prescribing	352	69.4%
Security Technology	346	68.2%
IT Infrastructure	345	68.0%
General Financial Systems	336	66.3%
Bar Coded Medication Administration	332	65.5%
Revenue Cycle Management	319	62.9%
Health Information Management	311	61.3%
Financial Decision Support	256	50.5%
Patient Portal	248	48.9%
Telemedicine	147	29.0%
Home Health	142	28.0%
Total	507	100.0%

Table Eight

Additional analysis in this study will be computed by breaking the number of applications installed in systems into thirds. As such, the categories examined in this research will be done based on the following:

1. Low level of technological sophistication – includes respondents reporting applications in fewer than 10 applications categories contained in this report (30 percent).
2. Middling level of technological sophistication – includes respondents reporting applications in 10 to 14 applications categories contained in this report (36 percent).
3. High level of technological sophistication – includes respondents reporting applications in at least 15 of the applications categories contained in this report (34 percent).

Finally, respondents were asked to identify their level of satisfaction with both the HIT applications training/tools that are available to them, as well as the training that they receive regarding the use of these tools. Respondents were asked to rate both of these questions using a one to seven scale, where one is not at all satisfied and seven is highly satisfied.

With respect to the overall level of satisfaction with the HIT applications and tools current available to them, respondents recorded an average score of 4.51. Only two percent of respondents indicated a score of one. At the other end of the spectrum, eight percent of respondents reported a score of seven. The most frequently selected score was five (29 percent).

Regarding the overall level of satisfaction with the training received regarding the HIT tools in place, respondents reported an average score of 4.25. Three percent of respondents indicated a score of one and five percent of respondents indicated a score of seven. Respondents were most likely to indicate a score of four (28 percent).

The satisfaction question was asked in a slightly different way in the 2006 study. In that study, approximately two-thirds of respondents indicated they were neither satisfied nor dissatisfied with the HIT application tools currently available at their hospital. Nearly 20 percent reported they were completely dissatisfied, while the remaining respondents reported they were completely satisfied.

5. General Advantages of HIT

Respondents were likely to note that HIT benefitted their overall ability to provide care efficiently, including the ability to have the information needed to understand their daily caseload. However, respondents also noted that available HIT applications/tools did not decrease the time needed for completing their end of shift reports.

One of the four categories that respondents were asked to respond to was in the area of general advantages of HIT. There are nine elements that were tested in this category. A scale of one to six was used to test these concepts, where one is strongly disagree and six is strongly agree.

In the 2006 study, the scale was dichotomized to create two categories – agree and disagree. A respondent was deemed to disagree with a statement if they responded to a question with a one, two or three. A respondent was identified as agreeing with a statement if they responded with a four, five or six. That dichotomization has been carried forward in this report.

Respondents were most likely to agree with the statement that "HIT provides better information to prepare me for my assigned patients/caseload each day." They were least likely to agree with the statement that "HIT applications/tools have decreased the time I need for end of shift report." The average of each concept, as well as the percent of respondents who agree with each statement is listed in the table below.

Response	Average	Percent Agree
HIT provides better information to prepare me for my assigned patients/caseload each day.	4.32	74.1%
HIT facilities practice efficiency.	4.24	74.0%
HIT applications available at my facility improve my ability to assume care for patients admitted or transferring into my unit/caseload.	4.21	70.3%
The ability of interdisciplinary team members to access information electronically has reduced their need to communicate directly with each other face-to-face/via telephone.	4.05	66.0%
Work lists generated from HIT tools support efficient patient care.	4.05	67.9%
The ability of nurses to access information electronically has improved their ability to independently make decisions.	4.04	67.3%
HIT applications have decreased the need for direct communication around writing patient orders.	3.75	59.0%
HIT allows for patient/family participation in care.	3.64	54.4%
HIT applications/tools have decreased the time I need for end of shift report.	3.52	53.7%

Table Nine

HIT Applications/Tools Have Decreased the Time I Need For End of Shift Report

Respondents were least likely to indicate that HIT applications/tools have decreased the time needed to complete their end of shift report (54 percent).

However, there is a substantial difference in responses by clinician type. Three-quarters of pharmacists (77 percent) agreed with this statement, while only 39 percent of physicians and half of nurses indicated that HIT applications/tools have decreased the time needed to complete end of shift reports.

Survey Segment	Percent Agree
All Respondents 2006	42.0%
All Respondents 2013	53.7%
Nurses 2013	50.2%
Pharmacists 2013	77.1%
Physicians 2013	38.5%

Table Ten

Respondents working for facilities with a more complex IT environment, as measured by number of applications in place, were more likely to report agreement with this statement (64 percent) when compared with those working for facilities with a less complex IT environment (47 percent).

There are no additional differences in level of agreement based on the demographic variables tested for in this research.

HIT Applications Have Decreased the Need For Direct Communications Around Writing Patient Orders

Slightly more than half of respondents (59 percent) indicated that HIT applications have decreased the need for direct communications pertaining to written patient orders. Physicians and pharmacists were more likely to report agreement with this statement (64 percent each) than were nurses (57 percent).

Survey Segment	Percent Agree
All Respondents 2006	41.0%
All Respondents 2013	59.0%
Nurses 2013	56.5%
Pharmacists 2013	63.8%
Physicians 2013	64.4%

Table 11

Additionally, while 65 percent of respondents working for a facility with a highly complex IT environment reported agreement with this statement, less than half of respondents working for an environment with fewer than 10 IT applications reported agreement with this statement.

There are no additional differences in level of agreement based on the demographic variables tested for in this research.

HIT Provides Better Information To Prepare Me for My Assigned Patients/Caseload Each Day

Nearly three-quarters of respondents indicated that HIT provides better information that leads to better preparation with respect to managing the daily caseload. This was the item most frequently identified in this category. Pharmacists were most likely to report agreement with this statement (91 percent), compared to 87 percent of physicians and 67 percent of nurses.

Survey Segment	Percent Agree
All Respondents 2006	65.0%
All Respondents 2013	74.1%
Nurses 2013	66.7%
Pharmacists 2013	91.2%
Physicians 2013	87.0%

Table 12

Executive level clinicians were most likely to report agreement with this statement (89 percent), when compared to clinicians holding other roles. Eighty-one (81) percent of informatics professionals reported agreement with this statement, as did 73 percent of department heads/managers and 62 percent of staff clinicians.

Additionally, respondents working for Magnet hospitals were more likely to indicate that HIT provides better information to prepare for the daily caseload when compared to respondents working for non-Magnet facilities (78 percent compared to 68 percent).

Respondents who work for highly technologically complex environments were most likely to report agreement with this statement (80 percent) than were those respondents who work at organizations with a low degree of technological complexity (65 percent).

HIT Facilitates Practice Efficiency

Nearly three-quarters of respondents (74 percent) agreed that HIT facilitates practice efficiency. Pharmacists were more likely than physicians or nurses to report agreement with this statement (88 percent). In comparison 73 percent of physicians and 70 percent of nurses agreed that HIT facilitates practice efficiency.

Survey Segment	Percent Agree
All Respondents 2006	78.0%
All Respondents 2013	74.0%
Nurses 2013	69.5%
Pharmacists 2013	87.6%
Physicians 2013	73.1%

Table 13

Additionally, informatics professionals were more likely to report agreement with this statement (81 percent) than were clinicians with other types of responsibilities. More than three-quarters of clinician executives (77 percent) and 71 percent of department heads/managers reported agreement with this statement. Staff clinicians were least likely to agree that HIT facilitates practice efficiency (62 percent).

Respondents working for a Magnet hospital were more likely to indicate HIT facilitates practice efficiency (74 percent) compared to those not working for a Magnet facility (70 percent).

By region, respondents working in the Northwestern and Southeastern states were more likely to agree that HIT facilitates practice efficiency (more than 80 percent each) than were respondents working in facilities located in the Northeastern and Southwestern states (approximately 70 percent each).

HIT Allows for Patient/Family Participation in Care

Approximately half of respondents (54 percent) agreed that HIT allows for patient/family participation in patient care. Pharmacists were much more likely to agree with this statement (71 percent) than were physicians (59 percent) or nurses (49 percent).

Survey Segment	Percent Agree
All Respondents 2006	46.0%
All Respondents 2013	54.4%
Nurses 2013	48.5%
Pharmacists 2013	71.3%
Physicians 2013	58.7%

Table 14

Department heads/managers and informatics professionals (61 percent each) were most likely to agree that HIT allows for patient/family participation in care. Approximately half of clinician executives (54 percent) agreed with this statement. Staff clinicians were least likely to agree that HIT allows for patient/family participation in care (42 percent).

Respondents working for a Magnet hospital were more likely to agree with this statement (60 percent) than were respondents working at non-Magnet facilities (49 percent).

Respondents working for organizations with a higher degree of technological complexity were more likely to agree that HIT allows for patient/family participation in care (59 percent) compared to only 45 percent of respondents who work for less technologically complex organizations.

Ability of Interdisciplinary Team Members to Access Information Electronically Has Reduced Their Need to Communicate Directly with Each Other Face-to-Face or Via Telephone

Nearly two-thirds of respondents (66 percent) agreed that the ability of interdisciplinary team members to access information electronically has reduced the need to

communication directly with each other, either face to face or via telephone. Clinical executives (74 percent) and informatics professionals (71 percent) were most likely to report agreement with this statement. At 56 percent, department heads/managers were least likely to agree that the ability of interdisciplinary team members to access information electronically has reduced their need to communicate directly with each other face-to-face or via telephone.

Respondents working for more technologically sophisticated organizations were more likely to report agreement with this statement (70 percent) than were respondents working with less technologically sophisticated organizations (57 percent).

There are no additional differences in level of agreement based on the demographic variables tested for in this research.

Ability of Nurses to Access Information Electronically Has Improved Their Ability to Independently Make Decisions

Two-thirds of respondents (67 percent) agree that the ability of nurses to access information electronically has improved their ability to independently make decisions. In general, respondents working for organizations with a higher level of technological complexity were more likely to agree with this statement. Nearly three-quarters of respondents who work for organizations with a middling rate of technological complexity agree with this statement, as do 70 percent of respondents who work for an organization with a high degree of technological complexity. Respondents working for organizations with a lower degree of technological complexity were least likely to agree that the ability of nurses to access information electronically has improved their ability to independently make decisions (57 percent).

There are no additional differences in level of agreement based on the demographic variables tested for in this research.

HIT Applications Available at My Facility Improve My Ability to Assume Care for Patients Admitted or Transferring Into My Unit/Caseload

Seventy (70) percent of respondents agreed that the HIT applications available at their organizations improve their ability to assume care for patients admitted or transferred to their unit/caseload. More than 80 percent of pharmacists agreed with this statement (82 percent), as did 74 percent of physicians and 67 percent of nurses.

Survey Segment	Percent Agree
All Respondents 2006	60.0%
All Respondents 2013	70.3%
Nurses 2013	66.5%
Pharmacists 2013	81.8%
Physicians 2013	73.8%

Table 15

More than three-quarters of informatics professionals (79 percent) agreed that the HIT applications available at their organizations improve their ability to assume care for patients admitted or transferred to their unit/caseload. Approximately three-quarters of clinician executives (74 percent) and department heads/managers (73 percent) also reported agreement with this statement. Staff clinicians (63 percent) were less likely to agree that the HIT applications available at their organizations improved their ability to assume care for patients admitted or transferred to their unit/caseload.

Respondents working for an organization with a high degree of technological complexity were most likely to report agreement with this statement (79 percent). In comparison, only 60 percent of respondents working for an organization with a low degree of technological complexity agreed with this statement.

There are no additional differences in level of agreement based on the demographic variables tested for in this research.

Work Lists Generated From HIT Tools Support Efficient Patient Care

Approximately two-thirds of respondents (68 percent) agreed that work lists generated from HIT tools support efficient patient care. Pharmacists (84 percent) were more likely than either physicians (76 percent) or nurses (61 percent) to agree that this was the case.

Survey Segment	Percent Agree
All Respondents 2006	64.0%
All Respondents 2013	67.9%
Nurses 2013	61.1%
Pharmacists 2013	84.4%
Physicians 2013	75.6%

Table 16

Clinician executives (77 percent) and informatics professionals (76 percent) were more likely to agree that work lists generated from HIT tools support efficient patient care. Staff clinicians were least likely to agree with this statement (55 percent).

Finally, respondents working for highly complex technological environments indicated that work lists generated from HIT tools support efficient patient care (79 percent). In comparison, only half of respondents working for less technologically sophisticated organizations reported the agreement (52 percent).

6. Workflow Implications of HIT

There is a high level of agreement among survey respondents regarding the role that HIT can play relative to the support of clinical processes, including the ability to provide quality care.

The second of the four categories that respondents were asked to address was the workflow implications of HIT. Eight elements were tested in this category. As with the previous category, a scale of one to six was used to test these concepts, where one is strongly disagree and six is strongly agree. Each variable was also dichotomized into a variable that identifies level of agreement (agree/disagree). Respondents were most likely to report agreeing with the statement "HIT applications/tools support various clinical processes." The average score of each concept, as well as the percent of respondents indicating agreement, is listed in the table below.

Response	Average	Percent Agree
HIT applications/tools support various clinical processes.	4.59	82.5%
The HIT applications available at my facility help me to process data and therefore improve access to information necessary to provide safe patient care.	4.53	79.6%
The ways in which data/information are displayed using HIT improved access to data.	4.45	77.3%
The availability of electronic interdisciplinary documentation has improved the capacity of clinicians to work together.	4.21	72.2%
HIT applications/tools facilitate interdisciplinary treatment planning.	4.15	71.4%
The ways in which data/information are displayed using HIT facilitates interdisciplinary care planning.	4.14	72.6%
The ways in which data/information are displayed using HIT reduces redundancy of care.	3.88	62.4%
HIT depersonalizes care.	3.00	36.7%

Table 17

The Ways in Which Data/Information Are Displayed Using HIT Improves Access to Data

More than three-quarters of respondents (77 percent) indicated agreement with this statement. By clinical specialty, 87 percent of pharmacists agreed that the ways in which data/information are displayed using HIT improves access to data. In comparison, 77 percent of physicians reported agreement with this statement, as did 74 percent of nurses.

Survey Segment	Percent Agree
All Respondents 2006	71.0%
All Respondents 2013	77.3%
Nurses 2013	74.0%
Pharmacists 2013	87.3%
Physicians 2013	77.4%

Table 18

Informatics professionals (84 percent) and clinical executives (81 percent) were most likely to agree that the ways in which data/information are displayed using HIT improves access to data. Department heads/managers were least likely to report agreement with this statement, at 69 percent.

Respondents working for organizations with a higher degree of technological complexity were more likely to agree with this statement than were those working for an organization with a lesser degree of technological complexity. Eighty-five (85) percent of those respondents working for an organization that is highly technologically complex agreed that the way data/information are displayed using HIT reduces redundancy of care, compared to 68 percent of those who work for an organization with a low level of technological complexity.

There are no additional differences in level of agreement based on the demographic variables tested for in this research.

HIT Depersonalizes Care

Approximately one-third of respondents (37 percent) indicated agreement with this statement; this represents the lowest level of agreement for the statements in this category. Respondents working at a Magnet hospital were more likely to agree with this statement (44 percent) than were respondents working for a non-Magnet hospital (34 percent).

There are no additional statistically significant differences in level of agreement based on the demographic variables tested for in this research.

The HIT Applications Available at My Facility Help Me to Process Data and Therefore Improve Access to Information Necessary to Provide Safe Patient Care

Eighty (80) percent of respondents agree that HIT applications available at their facility help clinicians process data and, as such, improve access to information needed to provide safe patient care. Nearly all pharmacists (94 percent) reported agreement with this statement, compared to 86 percent of physicians and three-quarters of nurses.

Survey Segment	Percent Agree
All Respondents 2006	86.0%
All Respondents 2013	79.6%
Nurses 2013	73.5%
Pharmacists 2013	94.3%
Physicians 2013	86.3%

Table 19

By role, clinical executives (86 percent) and informatics professionals (84 percent) were most likely to report agreement with this statement. Staff clinicians were least likely to agree that available HIT applications help process data to improve access needed to provide safe patient care (75 percent).

Respondents working for a Magnet hospital were more likely to report agreeing with this statement than their counterparts working at non-Magnet hospitals (82 percent compared to 74 percent).

By level of technological complexity, respondents working in technologically complex organizations were most likely to agree that HIT applications helped to process data, therefore improving access to the information necessary to provide safe patient care (88 percent). In comparison, fewer respondents working at organizations that were less technologically complex agreed with this statement (69 percent).

No additional statistically significant differences in level of agreement based on the demographic variables tested for in this research were identified.

The Availability of Electronic Interdisciplinary Documentation Has Improved the Capacity of Clinicians to Work Together

Nearly three-quarters of respondents (72 percent) agreed that the availability of electronic interdisciplinary documentation has improved the capacity of clinicians to work together. Pharmacists were more likely to report agreement with this statement (91 percent) than were nurses (68 percent) or physicians (61 percent).

Survey Segment	Percent Agree
All Respondents 2006	69.0%
All Respondents 2013	72.2%
Nurses 2013	67.8%
Pharmacists 2013	90.7%
Physicians 2013	61.2%

Table 20

Informatics professionals were most likely (79 percent) to agree that the availability of electronic interdisciplinary documentation has improved the capacity of clinicians to work together. At least 70 percent of department heads/managers (71 percent) and clinician executives (70 percent) also agreed with this statement. Agreement among staff clinicians was 67 percent.

Respondents working for Magnet hospitals were somewhat more likely than their counterparts working at non-Magnet hospitals to indicate agreement with this statement (71 percent compared to 66 percent).

Finally, 81 percent of respondents working at more technologically sophisticated healthcare organizations agreed that the availability of electronic interdisciplinary documentation has improved the capacity of clinicians to work together. In comparison, only 63 percent of respondents working at less technologically sophisticated healthcare facilities agreed with this statement.

HIT Applications/Tools Support Various Clinical Processes

More than 80 percent of respondents (83 percent) agreed that HIT applications/tools support clinical processes. This was the item within this category for which respondents were most likely to demonstrate agreement.

Nearly all pharmacists (96 percent) reported agreement with this statement. In comparison, 82 percent of physicians and 78 percent of nurses also reported agreement with this statement.

Survey Segment	Percent Agree
All Respondents 2006	74.0%
All Respondents 2013	82.5%
Nurses 2013	78.3%
Pharmacists 2013	95.5%
Physicians 2013	82.4%

Table 21

Respondents working at a Magnet hospital were more likely to agree that HIT applications/tools support various clinical processes than were respondents working for a non-Magnet facility (88 percent compared to 78 percent).

Respondents working at more technologically sophisticated organizations were more likely to report agreement with this statement (89 percent) than were those working at less technologically sophisticated organizations (73 percent).

The Ways in Which Data/Information Are Displayed Using HIT Reduces Redundancy of care

Approximately two-thirds of respondents (63 percent) reported agreement with this statement. By facility type, pharmacists were more likely to report agreement with this statement (72 percent). In comparison only 60 percent of nurses and physicians reported agreement with this statement.

Survey Segment	Percent Agree
All Respondents 2006	66.0%
All Respondents 2013	62.4%
Nurses 2013	59.7%
Pharmacists 2013	71.8%
Physicians 2013	59.6%

Table 22

Clinical executives (72 percent) were most likely to report agreement with this statement than other clinical role types. In contrast, 68 percent of informatics professionals believe that the ways in which data/information are displayed using HIT at their organizations reduce redundancy of care. Only half (51 percent) of staff clinicians agreed with this statement.

Respondents working at a Magnet hospital were more likely to report agreement with this statement than were respondents working at a non-Magnet facility (64 percent compared to 58 percent).

Finally, respondents working for more technologically sophisticated organizations were more likely to agree with this statement (71 percent) when compared to those working at less technologically sophisticated organizations (52 percent).

The Ways in Which Data/Information Are Displayed Using HIT Facilitates Interdisciplinary Care Planning

Nearly three-quarters of respondents (73 percent) agree with this statement. By type of clinician, pharmacists were most likely to report agreement (87 percent), followed by

physicians (71 percent). Two-thirds of nurses (68 percent) reported agreement with this statement.

Survey Segment	Percent Agree
All Respondents 2006	70.0%
All Respondents 2013	72.6%
Nurses 2013	68.1%
Pharmacists 2013	87.0%
Physicians 2013	71.2%

Table 23

Respondents working for an organization classified as a Magnet hospital were more likely to report agreeing that the ways in which data/information are displayed using HIT facilitates interdisciplinary care planning at their organizations than were their counterparts at non-Magnet facilities (77 percent compared to 66 percent).

More than three-quarters of respondents working for a technologically sophisticated organization (78 percent) agreed with this statement, compared to less than two-thirds of respondents (66 percent) working for a less technologically sophisticated organization.

No additional statistically significant differences in level of agreement based on the demographic variables tested for in this research were identified.

HIT Applications/Tools Facilitate Interdisciplinary Treatment Planning

Nearly three-quarters of respondents (71 percent) reported that they agree with this statement. Pharmacists were most likely to agree with this statement (88 percent). This is followed by physicians (75 percent) and nurses (65 percent).

Survey Segment	Percent Agree
All Respondents 2006	77.0%
All Respondents 2013	71.4%
Nurses 2013	65.4%
Pharmacists 2013	88.0%
Physicians 2013	74.5%

Table 24

Clinician executives were most likely to indicate agreement with this statement (78 percent). Informatics professionals also indicated a high level of agreement to this statement (74 percent). Department heads/managers were least likely to indicate agreement to this sample (69 percent).

Respondents working for Magnet hospitals were more likely to report agreement to this statement (74 percent) compared to those working for non-Magnet hospitals (64 percent).

Lastly, respondents working for organizations that are more technologically sophisticated were more likely to report agreement with this statement (79 percent), compared to those that are the least technologically sophisticated (64 percent).

7. Information Tools to Support Communication Tasks

Respondents were highly likely to report that they were knowledgeable about how to access the HIT applications in their EMR suite. And, while only 64 percent of *nurses* reported that HIT tools were used to optimize interdisciplinary communication, this is an increase from the 59 percent of *nurses* that reported this to be the case in 2006.

The next of the four categories that respondents were asked to address was how information tools support communications tasks. There are seven elements that were tested in this category. As with the previous category, a scale of one to six was used to test these concepts, where one is strongly disagree and six is strongly agree. A second variable was also created, in which respondents selecting a score of one, two or three were classified as disagreeing with the statement and respondents selecting a score of four, five or six were classified as agreeing with the statement. Respondents were most likely to agree with the statement "I know how to access the HIT applications/tools available in the EMR system." The average of each concept, as well as the percent of respondents agreeing with the statement, is listed in the table below.

Response	Average	Percent Agree
I know how to access the HIT applications/tools available in the EMR system.	5.12	89.8%
Available HIT tools support both patient care and administrative processes.	4.37	78.3%
Available HIT applications/tools facilitate the process of patient tracking.	4.22	73.2%
I have access to HIT applications/tools that support interdisciplinary communication when I need them.	4.17	71.7%
The availability of information afforded by HIT at my site helps nurses collaborate at a higher level with interdisciplinary colleagues than was possible with paper systems.	4.14	70.9%
HIT facilitates interdisciplinary communication that is patient centered.	4.09	70.6%
My site is utilizing HIT strategies to optimize interdisciplinary communication.	4.02	65.5%

Table 25

My Site Is Utilizing HIT Strategies to Optimize Interdisciplinary Communications

Approximately two-thirds of respondents (66 percent) reported agreement with this statement, which includes the use of communications such as clinical messaging, wireless voice communications systems and text paging. Pharmacists were most likely to report agreement with this statement (76 percent). Additionally, nearly two-thirds of nurses (63 percent) and 57 percent of physicians reported agreement with this statement.

Survey Segment	Percent Agree
All Respondents 2006	59.0%
All Respondents 2013	65.5%
Nurses 2013	63.4%
Pharmacists 2013	76.0%
Physicians 2013	56.5%

Table 26

Respondents that currently do not spend any time devoted to clinical activities reported a higher level of agreement with this statement than did those who spend some time on clinical activities (72 percent compared to 63 percent).

Nearly three-quarters of respondents working for organizations that are more technologically sophisticated reported agreement with this statement (73 percent)

compared to 60 percent of respondents working for organizations that have a more limited set of applications in place.

Available HIT Applications/Tools Facilitate the Process of Patient Tracking

Nearly three-quarters of respondents (73 percent) reported agreement that the HIT applications/tools available at their organization facilitate the process of patient tracking.

Respondents working for organizations with a more technologically sophisticated environment were more likely to agree with this statement than were individuals working for less technologically complex environments. More than three-quarters of respondents working for an environment that has installed technology in 10 to 14 of the applications areas tested in this research reported agreement with this statement (77 percent), as did 76 percent of respondents with applications installed in 15 or more areas. In comparison, 65 percent of respondents working for organizations with applications in fewer than 10 areas reported agreement with this statement.

No additional statistically significant differences in level of agreement based on the demographic variables tested for in this research were identified.

I Have Access to HIT Applications/Tools that Support Interdisciplinary Communication When I Need Them

Approximately two-thirds of respondents (72 percent) indicated that they have the access they need to HIT applications/tools that support interdisciplinary communication when needed.

Respondents working for organizations with a more technologically sophisticated environment were more likely to agree with this statement than were individuals working for less technologically complex environments. More than three-quarters of respondents working for an environment that has installed 15 or more of the applications areas tested in this research reported agreement with this statement (78 percent), as did 72 percent of respondents with applications installed in 10 to 14 areas. In comparison, 65 percent of respondents working for organizations with applications in fewer than 10 areas reported agreement with this statement.

There were no additional statistically significant differences in level of agreement based on the demographic variables tested for in this research.

Available HIT Tools Support Both Patient Care and Administrative Processes

More than three-quarters of respondents (78 percent) indicated that the HIT tools at their organizations' support both patient care and administrative processes.

While there was high level of agreement across all clinician categories, informatics professionals were most likely to agree with this statement (83 percent). This was followed by department heads/managers (81 percent) and clinical executives (79 percent). Staff clinicians were least likely to report agreement with this statement (69 percent).

Respondents working at more technologically sophisticated organizations were more likely than their counterparts to report agreement with this statement. More specifically, 85 percent of respondents working for an organization with solutions installed in 15 or more of the applications areas tested in this research reported agreement with this statement. In comparison, 67 percent of respondents working for organizations with solutions installed in fewer than 10 areas reported agreement with this statement.

HIT Facilitates Interdisciplinary Communication That is Patient Centered

Slightly more than two-thirds of respondents (71 percent) reported agreement with this statement. By clinical specialty, pharmacists were most likely to report agreement with this statement (77 percent). Agreement among nurses was also strong (71 percent). Physicians were much less likely to indicate that HIT facilitates interdisciplinary communication that is patient centered (57 percent).

Survey Segment	Percent Agree
All Respondents 2006	74.0%
All Respondents 2013	70.6%
Nurses 2013	70.6%
Pharmacists 2013	77.0%
Physicians 2013	56.9%

Table 27

Department heads/managers (77 percent) and informatics professionals (76 percent) were most likely to indicate that HIT facilitates interdisciplinary communication that is patient centered. Staff clinicians were much less likely to indicate agreement with this statement (63 percent).

Respondents working for organizations with a more technologically sophisticated environment were more likely to agree with this statement than were individuals working for less technologically complex environments. More than three-quarters of respondents working for an environment that has installed at least 15 of the applications areas tested in this research reported agreement with this statement (78 percent), as did 73 percent of respondents with applications installed in 10 to 14 areas. In comparison, 59 percent of respondents working for organizations with applications in fewer than 10 areas reported agreement with this statement.

The Availability of Information Afforded by HIT at My Site Helps Nurses Collaborate at a Higher Level with Interdisciplinary Colleagues than Was Possible with Paper Systems

Slightly more than two-thirds of respondents (71 percent) reported they agree that the availability of information afforded by HIT at their organization helps nurses collaborate at a higher level with interdisciplinary colleagues than was possible with paper systems.

Two-thirds of respondents that still provide at least some level of clinical services reported agreement with this statement. In comparison, more than three-quarters of respondents that no longer provide clinical services reported agreement with this statement (78 percent).

Informatics professionals (78 percent) and clinician executives (77 percent) were most likely to report agreement with this statement. Staff clinicians were least likely to report agreement with this statement (64 percent).

Respondents working for organizations with a more technologically sophisticated environment were more likely to agree with this statement than were individuals working for less technologically complex environments. Approximately three-quarters of respondents working for an environment that has installed at least 15 of the applications areas tested in this research reported agreement with this statement (75 percent), as did 73 percent of respondents with applications installed in 10 to 14 areas. In comparison, 64 percent of respondents working for organizations with applications in fewer than 10 areas reported agreement with this statement.

I Know How to Access the HIT Applications/Tools Available in the Electronic Medical Record System

Among all of the options identified in this section, respondents were most likely to report agreement with this statement (90 percent). Respondents who no longer perform clinical duties were more likely (94 percent) to report that they know how to access the HIT applications/tools available in the EMR system than were their colleagues who still perform clinical duties (88 percent).

At least 90 percent of informatics professionals (94 percent), department heads/managers (92 percent) and executives (90 percent) reported understanding how to access the HIT applications/tools available in the EMR. Only 80 percent of staff clinicians reported this to be the case.

Respondents working for organizations with a higher degree of technological sophistication were more likely to report that they agree with this statement than were respondents that work for organizations with a lesser degree of technological sophistication. More specifically, 94 percent of respondents working for an organization with applications installed in at least 15 of the categories identified in this research

reported agreement with this statement, compared to 84 percent of respondents working for organizations with applications installed in fewer than 10 of the applications areas identified in this research.

7. Information Tools to Support Information Tasks

In general, respondents were least likely to agree with the statements in this category when compared to the others in this report. While respondents were most likely to indicate that HIT tools/applications helped clinicians be more problem-focused in their communications, only 61 percent of respondents agreed with this statement.

The last of the four categories that respondents were asked to address was how information tools support information tasks. There are five elements that were assessed in this category. As with the previous category, a scale of one to six was used to evaluate these concepts, where one is strongly disagree and six is strongly agree. As in the previous sections, responses will also be categorized into two broad categories – agree and disagree. Respondents were most likely to agree with the statement "HIT applications/tools help me to be problem-focused in my communications." The average of each concept, as well as the percent of respondents agreeing with the statement, is listed in the table below.

Response	Average	Percent Agree
HIT applications/tools help me to be problem-focused in my communications.	3.83	61.1%
Communication of critical events to interdisciplinary colleagues can be done effectively using HIT.	3.63	54.7%
I find the acknowledgement features of current HIT applications/tools provide adequate assurance that my interdisciplinary colleagues have received the communications that I send.	3.54	52.6%
HIT promotes 2-way communication between clinicians about patient status.	3.53	52.3%
I find the acknowledgement features of current HIT applications/tools provide adequate assurance that interdisciplinary colleagues have acted upon information that I send.	3.34	46.5%

Table 28

I Find the Acknowledgement Features of Current HIT Applications/Tools Provide Adequate Assurance that My Interdisciplinary Colleagues Have Received the Communications that I Send

Approximately half of the respondents indicated agreement with this statement (52 percent). Respondents who work for a Magnet hospital were more slightly more likely to report agreement with this statement than were their counterparts who work for a non-Magnet facility (51 percent compared to 50 percent).

There were no additional statistically significant differences in level of agreement based on the demographic variables tested for in this research.

I Find the Acknowledgement Features of Current HIT Applications/Tools Provide Adequate Assurance that Interdisciplinary Colleagues Have Acted Upon Information that I Send

Less than half of respondents indicated agreement with this statement (47 percent). Respondents working for a Magnet hospital were slightly more likely to report agreement with this statement than were respondents working for a non-Magnet facility (44 percent compared to 43 percent).

No additional statistically significant differences in level of agreement based on the demographic variables tested for in this research were identified.

HIT Promotes Two-Way Communication between Clinicians about Patient Status

Slightly more than half of respondents agreed that HIT promotes two-way communication between clinicians about patient status. However, respondents that presently do not provide any clinical services were more likely than their counterparts who do still provide clinical services to indicate this was the case (59 percent compared to 50 percent).

Additionally, respondents working for a Magnet hospital were more likely to report agreement with this statement (50 percent) than were their counterparts that work for a non-Magnet facility (47 percent).

There were no additional statistically significant differences in level of agreement based on the demographic variables tested for in this research.

Communication of Critical Events to Interdisciplinary Colleagues Can be Done Effectively Using HIT

Slightly more than half of respondents (55 percent) indicated agreement with this statement. Pharmacists were most likely to agree that communication of critical events to interdisciplinary colleagues can be done effectively using HIT (65 percent). However,

the level of agreement to this statement among physicians was relatively low (38 percent).

Survey Segment	Percent Agree
All Respondents 2006	70.0%
All Respondents 2013	54.7%
Nurses 2013	54.1%
Pharmacists 2013	64.8%
Physicians 2013	38.0%

Table 29

Additionally, respondents who no longer devote any time to clinical activities were more likely to report agreement to this statement (63 percent) compared to respondents who continue to provide clinical services (52 percent).

There were no additional statistically significant differences in level of agreement based on the demographic variables tested for in this research.

HIT Applications/Tools Help Me to Be Problem-Focused in My Communications

Sixty-one (61) percent of respondents reported agreement to this statement. In general, pharmacists were more likely (72 percent) to report that HIT applications/tools enable them to be problem-focused in their communications than were nurses (59 percent) or physicians (55 percent).

Survey Segment	Percent Agree
All Respondents 2006	81.0%
All Respondents 2013	61.1%
Nurses 2013	58.5%
Pharmacists 2013	72.0%
Physicians 2013	55.1%

Table 30

There were no additional statistically significant differences in level of agreement based on the demographic variables tested for in this research.

8. Conclusions

Pharmacists were more likely than their physician or nurse counterparts to suggest that they found benefit from the use of HIT. One reason for this may be that pharmacy systems are more robust than other systems and have long been entrenched in healthcare organizations. As such, pharmacists are presumably more comfortable in using these solutions and deriving value from them.

Informatics professionals and clinician executives had a higher level of agreement with many of the statements tested in this report than did the individuals who provided direct patient care. This suggests that individuals who are already sold on the value of information systems need to continue to engage clinicians who are on the front lines of providing direct patient care to ensure that the solutions installed meet the needs of those providing care.

While many respondents feel that HIT tools provide information that enables clinicians to have information available at their fingertips to both help them manage their day and help them provide a safe level of patient care, respondents were less likely to indicate that the tools available to them enhance communication between the interdisciplinary team.

9. 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 52 years ago, HIMSS and its related organizations are headquartered in Chicago with additional offices in the United States, Europe and Asia. HIMSS represents nearly 50,000 individual members, of which more than two thirds work in healthcare provider, governmental and not-for-profit organizations. HIMSS also includes over 570 corporate members and more than 225 not-for-profit partner 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, research initiatives, and media vehicles 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.

11. About HIMSS Analytics

HIMSS Analytics is a wholly owned not-for-profit subsidiary of the Healthcare Information and Management Systems Society. The company collects and analyzes healthcare data related to IT processes and environments, products, IS department composition and costs, IS department management metrics, healthcare trends and purchase-related decisions. HIMSS Analytics delivers high quality data and analytical expertise to healthcare delivery organizations, healthcare IT companies, state governments, financial companies, pharmaceutical companies, and consulting firms. Visit www.himssanalytics.org/ for more information.

12. 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 2013 HIMSS iHIT Study.

13. For More Information, Contact:

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Appendix A – Contributors

We would like to acknowledge the role of the HIMSS Clinical Informatics Communities (Nursing, Pharmacy and Physician) and the 7,000+ clinician members of HIMSS, of which this body of knowledge represents. The following individuals have generously contributed to the development of this study:

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