HIM Impact on EHRs: Newly Released Study Links HIM Professionals and Successful EHR Implementations

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Facilities with successful EHR systems are more likely to be those where HIM professionals played a role, according to newly released research.

Involving HIM professionals in EHR implementations can improve outcomes, according to a report recently released by AHIMA. The report surveyed hospital HIM directors about the extent of HIM involvement in EHR implementations, then identified correlations between involvement and project success.

The results reveal a high level of HIM participation in a variety of roles. Those facilities reporting the best outcomes were significantly linked to HIM involvement in the following two areas:

- Workflow and process improvement, in both clinical settings and the HIM department
- Implementation responsibilities and training for the document management system and paper record retention following implementation

Many Roles, High Level of Participation

HIM professionals are very involved in their facilities' EHR implementations, with 61 percent serving on an EHR steering or comparable committee and 69 percent managing amendments to records (see table [below]). Another 67 percent are involved in documentation improvement programs.

HIM Involvement in EHR Implementations
Percent of HIM professionals involved in EHR implementations, by role

EHR Implementation Factor	% Involved
Manage amendments to records	69%
Participate in document improvement program	67%
Serve on EHR steering or comparable committee	61%
Test legal admissibility of records	50%
Design or revise reports	50%
Participate in development of EHR functionality specifications	49%
Serve as EHR project manager or on project management team	44%
Audit changes in electronic documentation for correctness	39%
Participate in quality improvement programs	39%
Design or modify screens and templates	36%
Manage access controls in EHR	35%
Lead or participate in data standards adoption	30%
Audit compliance with clinical guidelines or protocols	23%

Manage the data dictionary for changes to definitions in controlled vocabulary	17%
Audit compliance with clinical decision support alerts and reminders	12%

While these numbers illustrate HIM involvement, they do not directly relate involvement to favorable outcomes. For this information survey respondents were asked to indicate the level of adoption of EHR components in their facilities and specify the type and level of HIM involvement. Those implementations that resulted in meeting benchmarks of system use were classified as “best outcomes.” The balance are reported as “other outcomes.”

This information was gathered for five functions: document management, patient care charting, electronic medication administration records, computerized provider order entry, and data mining. The results for these functions when crossed with different aspects of HIM involvement are found in the table “Correlating HIM Involvement with EHR Outcomes” [below].

Correlating HIM Involvement with EHR Outcomes

Percent HIM involvement in "best outcomes" and "other outcomes" EHR implementations by EHR function

EHR Functionality	Best Outcomes*	Other Outcomes**	Significance (X^2)
Document Management (N=265)	**38%**	**62%**	
Workflow or process improvement in clinical care setting	70%	46%	<.001
Workflow or process improvement in HIM department	95%	75%	<.00001
Responsible for planning or selecting system vendor	50%	42%	0.12
Responsible for implementing and training for system	69%	54%	0.01
Responsible for paper record retention following adoption of system	90%	81%	0.04
No role	0%	3%	0.09
Patient Care Charting (N=270)	**60%**	**40%**	
Active participant in planning and selecting the system	33%	36%	0.33
Active participant in designing screens and templates	28%	29%	0.5
Active participant in workflow and process improvement	50%	44%	0.18
Active participant in data quality management	52%	35%	<.01
No role	20%	31%	0.03
Electronic Medication Administration Records (N=158)	**25%**	**75%**	
Active participant in planning and selecting the system	5%	11%	0.23
Active participant in workflow and process improvement	5%	13%	0.16
Active participant in data quality management	13%	13%	0.58
No role	72%	73%	0.51
Computerized Provider Order Entry (N=243)	**17%**	**83%**	
Active participant in planning and selecting the system	15%	22%	0.21
Active participant in workflow and process improvement	37%	23%	0.06
Active participant in data quality management	42%	27%	0.05
No role	42%	50%	0.21
Data Mining (N=180)	**34%**	**66%**	
Provide data analysis	48%	40%	0.22
Manage data dictionary or controlled vocabulary	21%	19%	0.45

Review reports for accuracy	44%	47%	0.42
Explain reports to users	39%	40%	0.56
No role	26%	28%	0.49

*Implementations that resulted in system use that met or exceeded benchmarks as defined by the study
**Implementations that did not meet benchmarks of system use

Document Management Systems

Among respondents, 85 percent had implemented document management functionality. Of these, 38 percent were classified in the "best outcomes" category because their clinicians frequently used the document management system to access patient data at the point of care.

Best outcomes were significantly related to HIM participation for workflow and process improvement in the clinical care setting; workflow and process improvement in the HIM department; responsibility for implementing and training for the document management system; and responsibility for paper record retention following adoption of the electronic document management system.

Whether or not HIM was involved in planning, selecting, or implementing the document management system had no apparent affect on the level of document management functionality adoption.

Patient-Care Charting Systems

Another 86 percent of respondents had implemented a patient-care charting system. Of these, 60 percent were classified as best outcomes because the system was used by any clinical provider to any degree in the inpatient setting or used more than half of the time in all other settings. Active HIM participation in data quality management significantly contributed to best outcomes.

Not found to be significant were HIM participation in planning and selecting the electronic patient care charting system, designing screens and templates, and workflow and process improvement. Those implementations not classified as best outcomes were more likely to have lacked HIM participation.

Electronic Medication Administration Records

For this survey electronic medication administration records (EMAR) was narrowly defined as bar-coded EMAR or radio frequency EMAR. Approximately half of respondents reported that their facilities had this level of EMAR (51 percent). Of those, only 25 percent were using the system on more than one nursing unit. The report showed no HIM participation in EMAR to any significant degree.

Reasons for a lack of HIM impact on EMAR functionality reported in the study may include the very narrow definition of EMAR best practices, poor definitions on the survey, the low number of EMAR functionality adoption among respondents, and a lack of HIM involvement in managing medication administration information.

Computerized Provider Order Entry

Computerized provider order entry (CPOE) had been implemented or was slated for implementation by 78 percent of respondents. Best outcomes were deemed to be those respondents reporting CPOE use by more than 25 percent of physicians in the ambulatory or inpatient setting or more than 50 percent of physicians in the ED setting. Only 17 percent of those implementing or planning CPOE implementation were classified as best outcomes.

HIM participation in CPOE data quality management was significantly higher in the best outcomes group (42 percent compared with 27 percent in the "other outcomes" category). HIM participation in workflow and process redesign was almost as significant (37 percent compared with 23 percent). Lack of HIM involvement in CPOE was higher in other outcomes than best outcomes (50 percent compared with 42 percent), though the difference is not statistically significant at p=.21.

Data Mining

Data mining for the purposes of this survey was defined as the ability to perform complex analyses on data. Only 58 percent of respondents indicated their organization was using this functionality. Best outcomes organizations were identified as those using data mining to develop guidelines and protocols for clinical decision support or data-entry template design. Approximately one-third of organizations were classified as best outcomes (34 percent). No significant difference in HIM participation was found between the best and other categories.

Reasons for a lack of HIM impact upon EHR data mining has many potential causes, including the fact that data mining cannot occur until a threshold of EHR functionality has been implemented and data entered into the EHR. This could also explain the relatively low percentage of respondents indicating they perform data mining. Further, data mining occurs at corporate offices in some facilities, and the surveyed HIM professionals may not have been be aware of the efforts or of HIM involvement.

About the Survey

The survey was designed as an initial effort in researching the topic. It was constructed by content experts and reviewed by the multidisciplinary AHIMA EHR Practice Council. Formal validity and reliability tests were not conducted; however, it is AHIMA's intention to continue the development of this survey and conduct follow-up research in the future.

The survey was conducted online in December 2005. A total of 313 AHIMA members responded. The distribution of hospitals represented in the survey was well balanced: fewer than 100 beds (40 percent), 100 to 299 beds (34 percent), and 300 or more beds (27 percent). The vast majority of these hospitals were not-for-profit (72 percent), with 15 percent being for profit, and 13 percent being government hospitals.

The full background and frequencies of EHR implementation and types of HIM involvement can be found online in the FORE Library: HIM Body of Knowledge.

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