

Results: Survey of Pediatric Urology Electronic Medical Records—Use and Perspectives

Stephen James Canon,* Jody Ann Purifoy, Gerald M. Heulitt, William Hogan, Christopher Swearingen, Mark Williams, Seth Alpert and Diane Young

From the Departments of Urology, Pediatrics and Biostatistics, University of Arkansas for Medical Sciences-Arkansas Children's Hospital, Division of Pediatric Urology, Arkansas Children's Hospital and Department of Biostatistics, University of Arkansas for Medical Sciences, Little Rock, Arkansas, and Department of Urology, Nationwide Children's Hospital, Columbus, Ohio

Abbreviations and Acronyms

EMR = electronic medical record
HITECH = Health Information Technology for Economic and Clinical Health
IS = information system

Study received institutional review board approval.

Supplementary material for this article can be obtained at http://arpediatrics.org/images/stories/Pediatric_Urology_EMR_SurveyMonkey_20100406.pdf and http://arpediatrics.org/images/stories/Pediatric_Urology_EMR_Survey_Supplemental_Tables.pdf.

* Correspondence: Division of Pediatric Urology, Arkansas Children's Hospital, 1 Children's Way, Slot 840, Little Rock, Arkansas 72202 (telephone: 501-364-2614; e-mail: scanon@uams.edu).

Purpose: The \$19.2 billion Health Information Technology for Economic and Clinical Health Act will have a dramatic effect on the adoption of electronic medical records in the United States by directly reimbursing for the adoption of electronic medical records in the future. We sought to gain an understanding of electronic medical record use in pediatric urology to aid in the transition to electronic medical records.

Materials and Methods: All Fellows and post-fellowship Fellow Candidates of the American Academy of Pediatrics Section on Urology were recruited to participate in the survey. Electronic and paper versions of this 50-question internal review board approved anonymous survey were sent to potential participants.

Results: Of 286 pediatric urologists 165 completed the survey for a 65% response rate. Of the respondents 67.3% were pediatric urologists in academic or hospital based practice while the remaining 32.7% were in private practice. Overall 78.8% of respondents reported using electronic medical records at the hospital while 67.3% used them at the office/clinic. Of the physicians 12.1% reported that they would retire if electronic medical record use was federally mandated.

Conclusions: Pediatric urologists in the United States appear to have embraced the adoption of electronic medical records. A large number of academic/hospital based and private practice pediatric urologists have begun to use electronic medical records. Most respondents were interested in improving electronic medical record use in our field, believed that physicians would be most capable of developing ideal electronic medical records and would be interested in participating in a national cooperative effort to improve electronic medical record use.

Key Words: urology, federal government, American Recovery and Reinvestment Act, electric health records, questionnaires

THE 27 billion dollar HITECH Act, which was signed into law on February 17, 2009, is a division of the American Recovery and Reinvestment Act. This act will be implemented during the next 10 years and will have a dramatic effect on increasing the adoption rate of EMR use in the United States.

Blumenthal and Tavenner recently reported guidelines for meaningful

use regulation for EHRs.¹ These requirements originated from the Office of the National Coordinator, and Centers for Medicare and Medicaid Services. They will be in effect for 2 years, beginning January 2011. Eligible health care providers and/or hospitals will receive reimbursement up to \$44,000 through Medicare or \$63,750 through Medicaid to adopt

meaningful use. Part of the federal funding for EMR adoption will be directed toward a nationwide network of Regional Extension Centers to assist primary care providers and internal medicine specialists to establish meaningful use to enable reimbursement.

While EMR trends, use patterns and barriers have been widely reported, to our knowledge there are no publications specifically addressing the population of pediatric urologists. We developed a survey for this population to gain better understanding of our progress in this field and hopefully aid in the transition to EMR adoption.

METHODS

All Fellows and post-fellowship Fellow Candidates of the American Academy of Pediatrics Section on Urology were recruited to participate in the survey. Electronic and paper versions of this 50-question, internal review board approved anonymous survey were sent to potential participants. The electronic 15 to 30-minute survey was tested for validity and clarity by 3 physicians at different practice settings and is available on line.¹ The written version was tested by 2 physicians and 1 support staff member.

The electronic version was created in SurveyMonkey® and e-mailed to all members of the American Academy of Pediatrics Section on Urology. The electronic request was accompanied by a cover letter and emailed 3 times in 3 months. The written survey was mailed to all members via the United States Postal Service with a postage paid return envelope. All responses to the survey were anonymous.

A total of 286 pediatric urologists were mailed the survey and 279 were emailed a cover letter with a link to SurveyMonkey. To provide all members with the opportunity to complete the survey electronically we provided an electronic address in the written cover letter mailed to each pediatric urologist. Manually completed responses were entered into SurveyMonkey by a member of the research team under another link to separate data responses.

Differences were estimated between practice settings using the Kruskal-Wallis group test for continuous measures. The chi-square test was used for categorical data and Fisher's exact test was used for sparse data. ORs estimated across academic practice were completed using Cochran-Mantel-Haenszel stratified analysis. All analysis was done with Stata®, v11.1.

RESULTS

of 286 pediatric urologists 165 completed the survey for a 65% response rate. Of the responses 98 were provided via Web link on SurveyMonkey and 67 were manually completed and mailed. This sample may represent the entire pediatric urologist population since responses were received from all over the United States, including 100 (60.6%) from the northeast and south. Of the respondents 112 (67.9%) were 41 to 60 years old, 111 (67.3%) were pediatric uro-

Table 1. Demographic and technical information by practice setting

| | No. Respondents (%) | | | |
|------------------------------|---------------------|-----------|------------------|------------|
| | Academic | Hospital | Private Practice | Totals |
| Overall | 82 (49.7) | 29 (17.6) | 54 (32.7) | 165 |
| United States Census region: | | | | |
| Northeast | 19 (23.8) | 6 (20.7) | 12 (22.2) | 37 (22.7) |
| South | 25 (31.3) | 11 (37.9) | 27 (50.0) | 63 (38.7) |
| Midwest | 21 (26.2) | 3 (10.4) | 7 (13.0) | 31 (19.0) |
| West | 14 (17.5) | 9 (31.0) | 7 (13.0) | 30 (18.4) |
| Other | 1 (1.2) | 0 | 1 (1.8) | 2 (1.2) |
| Age (yrs): | | | | |
| 31–40 | 14 (17.1) | 5 (17.2) | 5 (9.3) | 24 (14.6) |
| 41–50 | 32 (39.0) | 9 (31.0) | 21 (38.9) | 62 (37.6) |
| 51–60 | 22 (26.8) | 10 (34.5) | 18 (33.3) | 50 (30.3) |
| 61–70 | 11 (13.4) | 4 (13.8) | 10 (18.5) | 25 (15.1) |
| 70+ | 3 (3.7) | 1 (3.5) | 0 | 4 (2.4) |
| EMR use | 71 (86.6) | 24 (82.8) | 46 (85.2) | 141 (85.5) |
| Computer in office/clinic* | 82 (100.0) | 27 (93.1) | 52 (96.3) | 161 (97.6) |
| EMR site:† | | | | |
| Not used | 11 (13.4) | 5 (17.2) | 8 (14.8) | 24 (14.6) |
| Hospital only | 7 (8.5) | 8 (27.6) | 15 (27.8) | 30 (18.2) |
| Clinic only | 3 (3.7) | 2 (6.9) | 6 (11.1) | 11 (6.6) |
| Hospital + clinic | 61 (74.4) | 14 (48.3) | 25 (46.3) | 100 (60.6) |
| Computer literacy‡ | 56 (68.3) | 17 (58.6) | 35 (64.8) | 108 (65.5) |
| Mandated EMR retirement | 7 (8.5) | 3 (10.3) | 10 (18.5) | 20 (12.1) |
| HITECH awareness | 44 (63.8) | 17 (65.4) | 32 (69.6) | 93 (66.0) |

* p < 0.05.

† p < 0.01.

‡ Ability to type with 10 fingers.

gists in academic or hospital based practice and the remaining 54 (32.7%) were in private practice (table 1). Overall 130 respondents (78.8%) reported using EMRs at the hospital while 111 (67.3%) used EMRs at the office/clinic.

Of the surveyed pediatric urologists 161 (97.6%) had a computer at the office with Internet access, of whom 159 (98.8%) used e-mail, 137 (85.1%) surfed the Internet, 149 (92.6%) used the computer to create presentations, 148 (91.9%) used the computer for clinical reference material and 117 (70.9%) used the computer for continuing education. Only 3 respondents (1.8%) were computer nonusers. Of the respondents 108 (65.5%) reported using all 10 fingers to type rapidly or slowly while 2 (1.2%) used dictation only without typing.

Of the clinic EMR users 82 (82.0%) have used EMRs for greater than a year and 34 (34.0%) have used them for 1 to 3 years. Of these respondents 56 (68.3%) reported becoming proficient with EMRs within 1 to 6 months while 9 (11%) reported that they were still not proficient. When asked to rate the efficiency of the clinic before and after EMR implementation, a significant association was observed between improved clinic efficiency and increased duration of EMR use in the clinic setting (table 2). However, decreased efficiency was estimated at of-

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