Abstract

Objectives: To estimate the usage of Electronic Medical Records (EMR) in ambulatory otolaryngology and to compare the usage trends between otolaryngologists and physicians in other specialties.

Study Design: Cross-sectional analysis, the National Ambulatory Medical Care Survey (NAMCS). Methods: The 2005-2010 NAMCS data sets were analyzed for whether storage of patient records in otolaryngology practices were completely electronic, partly electronic, or paper-based. The trend of EMR utilization in the studied period was compared between otolaryngologists and other specialties. Furthermore, the percentage of different EMR functions (e.g., ordering tests) was also evaluated.

Results: The proportion of otolaryngology practices with complete or partial EMR usage increased from 27.0% in 2005-2006 to 48.5% in 2009-2010 (p=0.001), and was projected to increase to 80.3% in 2015-2016. Otolaryngologists had variable usage of different functions. Nevertheless, the overall use of EMR nor its different functions were statistically different between otolaryngologists and other specialists. Further exploration of data revealed that 34.0% of otolaryngologists intended to install new EMR systems within the following years. Finally, 35.9% of otolaryngologists who had a plan to apply for Medicare or Medicaid incentive payments, of which 92.3% expected to start meaningful use in 2011.

Conclusions: The increasing utilization of EMR in ambulatory otolaryngology is an important marker of progress in compliance with healthcare reform. Despite this upward trend, however, less than 50% of ambulatory offices had adopted EMRs in 2009-2010 and it remains to be seen how the field will adapt to the evolving challenge of EMR adoption and implementation.

Methods

Data Source
- NAMCS data sets from 2005-2010 were obtained and merged.
- EMR use was classified as “completely-electronic”, “partly-electronic” or “not electronic” based on responses to the question: “Does your practice use electronic medical records or health records [EMR/EHR] (not including billing records)?”
- Percentages were calculated among otolaryngologists and compared to other physicians (all medical and surgical specialties, except anesthesiology, radiology & pathology).
- For the 2009-2010 data sets, use of different EMR functions was also compared between otolaryngologists and other physicians. These include: patient demographics, prescription and test orders, lab and imaging results, clinical notes, reminders for intervention/screening tests and claims submission.

Statistical Analysis
- Estimates were produced using the NAMCS physician-level sample weight which allows for the generation of nation-wide estimates.
- Data was analyzed in 2-year cycles to increase reliability of estimates.
- A logistical regression model was fit to project the EMR usage rate in subsequent years up to 2015-2016, the key milestone of Medicare and Medicaid incentive payments.

Results
- 7,449 practices were surveyed from 2005 to 2010 and were extrapolated to an annual average of 321,795 offices in practice in the U.S. of which 1.9% were otolaryngology practices (95% CI: 1.7-2.0; estimation: 6,016 offices).
- The percentage of completely-electronic practices increased from 13.9% to 36.3% (95% CI: 26.2 – 46.5), while the percentage of paper-based offices decreased from 73.0% (95% CI: 63.5 – 82.5) to 51.5% (95% CI: 40.9 – 62.0) in the same period (p<0.001).

Discussion

Our findings indicate EMR adoption in ambulatory otolaryngology practices has been increasing near parallel to progress in other medical fields.
- Less than 50% of otolaryngologists were using EMRs in the latest data sets of 2009-2010.
- EMR is projected to be used by 80.3% of otolaryngology practices in 2015 – 2016, an important timepoint when otolaryngologists who do not demonstrate “meaningful use” of EMR will be penalized a part of their Medicare revenues.
- 62% of otolaryngologists were projected to use EMR in 2011-2012, which compares well to a 2011 survey by the American Academy of Otolaryngology—Head and Neck Surgery (AAO-HNS) in which 67% of the respondents used EMR in their practices.
- Previous studies have had conflicting results about the ability of EMR to improve the delivery of healthcare.
- Along the same lines, these findings showed that the use of different EMR functions varied within each group, indicating that a more uniform meaningful use of EMR is needed for healthcare improvements.
- Our analysis of the 2010 NAMCS showed that approximately 40% of otolaryngologists had planned to apply for incentive payments which is less than reported value (75%) from the 2011 AAO-HNS survey.
- Anecdotal evidence suggests that fewer otolaryngologists received incentive payments in 2011.
- Future trends in EMR adoption may be influenced by several different factors including technological advances, changes in associated costs, and the ability of the remaining subset of paper-based practices to accomplish the transition.

Conclusions

• EMR usage by office-based otolaryngologists has increased, consistent with the trends in other specialties.
• Less than one half of otolaryngology practices used EMR up to 2009-2010, indicating that significant progress still remains before a complete transition to paperless records is achieved.
• It is projected that about 80% of otolaryngology practices will be using EMR by 2015-2016.
• There is still hesitation among otolaryngologists and other specialists to apply for “meaningful use” incentive payments.
• With the start of incentive payments in 2011, it remains to be studied how the field of otolaryngology will adapt to the new conditions.

References