Optimal Management of Test Results in Primary Care

Study Overview

<u>Objective</u>. To identify problems in current test result management systems and ways to improve these systems.

<u>Design</u>. Cross-sectional survey.

<u>Settings and participants</u>. Between October 2002 and December 2002, 262 physicians in 15 internal medicine practices affiliated with 2 large urban teaching hospitals were surveyed (response rate, 64%). All practices had an electronic medical record (EMR) system that permitted access to laboratory results.

<u>Main outcome measure</u>. Physician satisfaction score for current results management system.

<u>Main results</u>. Physicians spent on average 74 minutes per clinical day managing test results, and 83% of respondents reported at least 1 delay in reviewing test results during the previous 2 months. Only 41% were satisfied with their current system. Satisfaction was associated with active tracking of test orders to completion and fewer delays in reviewing test results. Tools to generate result letters, help physicians prioritize workflow, and track test orders to completion were highly desired elements in an electronic results management system.

<u>Conclusion</u>. Many physicians are not satisfied with current test results management, and delays in review are common. Improvements should include test order and completion tracking as well as workflow efficiency.

Commentary

The 1999 Institute of Medicine publication, *To err is human: building a safer health system*, focused national attention on the issue of patient safety. One of the most obvious safety issues is the failure to follow-up on diagnostic tests, especially abnormal ones [1]. However, no studies to date have detailed particular weaknesses or strengths in the current results management system [2–4]. Poon and colleagues surveyed internal medicine attending physicians and house-staff at clinics in or affiliated with 2 large teaching hospitals

in Boston, MA, to characterize aspects of the current test result management system. Although all physicians surveyed had an EMR system that provided access to laboratory results, no uniform results management system was in place.

Poon and colleagues showed that almost half of physicians did not keep a record of tests ordered and less than one third had a system to detect if a patient had missed a test. There was no consensus on the best system. Some had dedicated clinic staff, others used "to do" lists, and still others used handheld devices or e-mail management software. As a result of this nonsystematic follow-up of tests ordered, 83% of the clinicians wished that they had viewed at least 1 test result earlier in the past 2 months, and up to 18% noted that this happened 5 or more times. In a clustered multivariable regression model, physicians were more satisfied with their results management if they kept a record of tests ordered, had a system to detect patients missing tests, and self-reported fewer delays in results reviewing. When physicians were given 9 features of a potential results management system to rate, the top 3 features in order were prioritization in presentation of abnormal results, letter writing capabilities, and warning system for patients missing tests.

Applications for Clinical Practice

Although generalizing this study to physicians without access to an EMR system may be problematic, the findings in this study suggest that clinicians who do use these systems may improve their results management by instituting simple steps (eg, keeping a record of tests ordered). Many of the features discussed as tools for better results management can serve as options for EMR developers to investigate, especially given the public presidential endorsement for EMR adoption in 10 years. For those clinicians willing to be early adopters of EMR systems, take time to evaluate results management as a key feature.

–Review by Mark S. Horng, MD

References

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