

Patient Safety Tip of the Week

November 17, 2015

Patient Perspectives on Communication of Test Results

Test results missing from patient charts are not uncommon in primary care offices. One study showed lab results were missing in 6.1% of all office visits and radiology reports were missing in 3.8% of all office visits ([Smith 2005](#)). In our July 2009 What's New in the Patient Safety World column "[Failure to Inform Patients of Clinically Significant Outpatient Test Results](#)" we noted another study which found apparent failure to inform patients of such abnormal test results 7.1% of the time ([Casalino 2009](#)).

There are probably over 30 steps involved between the decision to order a test and communicating the results to the patient and taking actions based upon the results (see our March 6, 2012 Patient Safety Tip of the Week "[Lab Error](#)"). Even if the chance of error at each step was only about 1%, the cumulative risk of an error is substantial (perhaps as high as 25%). And while many such errors may have little or no adverse impact on patients, the failure to follow up on abnormal lab or radiology tests can have devastating results to patients.

Two studies by Litchfield and colleagues recently highlighted significant gaps in both identifying missing test results and in communicating test results to patients in the UK. In the first ([Litchfield 2015a](#)) a phone survey of primary care practices was used. The authors found that the default method for communicating normal test results to patients was having the patient call the practice in 80% of practices and 40% of practices required the patient to call for abnormal test results. 36% of the practices had a physician call the patient if the test result was sensitive or serious. In 18% of practices administrative staff would contact the patient and ask them to book an appointment. When asked if the practice had a system for knowing if a blood test result had been returned, **84% had no such system**. 10% assigned a staff member to check paper records of tests ordered against electronic records and 6% thought that their EMR system would highlight missing test results. Significantly, none of the practices had assigned a specific team member the task of recording whether abnormal test results had been returned to the patients. These results in the UK apparently occurred despite the capability of the existing EMR systems in the majority of practices to track test results.

The Litchfield paper provides a nice diagram of all the steps involved in the blood testing process from ordering to return to and acknowledgement by the responsible physician, including all the steps at the laboratory. It identifies steps at which delays or failures are likely to occur. These included spoiled, damaged, or otherwise non-viable samples, misidentified samples, samples with unreadable labels, lost samples, etc. (See also the list of our previous columns on “lab” errors at the end of today’s column.) The Litchfield paper also describes when and how the lab would convey that information back to practices.

In the companion study, Litchfield and colleagues ([Litchfield 2015b](#)) did focus groups with both patients and staff to better understand where errors or delays in the process might occur. This is where they constructed a process map and service blueprint in a LEAN-like process that identified potential points of delay and potential failure points. It’s of interest that most of these points impacted patients much more so than practices. They ultimately identified 6 areas where improvements could be made:

- reducing delay prior to blood sampling
- having a fail-safe to detect missing and delayed results
- improved management of calls from patients seeking results
- addressing the role of nonclinical staff in result communication
- routine communication of non-critical results by the practice
- defining and disseminating among patients and staff a protocol for the TTP

The delay in getting an appointment with the phlebotomist was not only frustrating for patients but also led to many simply not getting their blood drawn at all. Physicians and staff noted that often they would only recognize that no results were available once the patient called to get results. Putting the onus on patients to call the office for test results led to telephone gridlock that angered both patients and staff. Requiring patients to call for normal test results led to a huge volume of phone calls. Physicians and staffs were not in favor of calls for normal test results but patients were most interested in receiving them. Patients also were generally unhappy getting their results from untrained office staff who could no answer clinical questions. Patients actually seemed to be interested in the idea that text messaging could be used as a means to communicate results. Staff, however, were concerned about that, noting that patients’ cell phone numbers might change.

Lastly, despite the fact that the clinical management (IT) systems at the practices had the capability of tracking tests results, few practices used this capability or were interested in training their staffs on such use.

In a commentary regarding 2 papers from the UK which showed continued problems in ensuring patients were appropriately notified of abnormal test results Kwan and Cram ([Kwan 2015](#)) note the increasing trend of putting test results directly in the hands of patients. They note that HIT regulations and meaningful use criteria require patients have more access to their electronic health records and that **patient portals** are now a feature of most electronic medical records. They also note that patient interest in portals is greater than physician interest in them. They do outline some of the issues of directly

reporting test results to patients, including whether to report only normal or abnormal results or both, how to assist patients in interpreting results, and levels of patient anxiety that may be produced by results.

In another commentary on the 2 Litchfield studies Nancy Elder, who has written extensively on the problem of following up on test results in primary care, talks about team dynamics in achieving quality and safety outcomes ([Elder 2015](#)). She notes that in primary care the testing process is often carried out in steps by individuals who are often unaware of the steps before and after their contribution. Elder notes that all too often primary care physicians rely on untrained staff to communicate results to patients. They also often rely on patients to let them know when results are missing. She notes that PCP's often underappreciate the problem because actual cases of patient harm are relatively rare and they are often "overloaded" responding to minimally abnormal test results of no clinical significance.

So patients are very interested in seeing their test results, whether they are normal or abnormal. But the mode preferred by patients for receiving such results has received little attention.

Now a new study surveyed patients in the US on their preferences for receiving reports of test results ([LaRocque 2015](#)). Importantly, in the survey they asked questions about results of specific types of test. The survey assessed comfort with 7 delivery methods: fax, personal voicemail, home voicemail, personal E-mail, letter, mobile phone text message, and password-protected website. The also assessed preferences for receiving information on cholesterol levels, colonoscopy results, tests for non-HIV sexually transmitted infections, and 3 genetic tests.

Not surprisingly, receiving results by fax was the least comfortable for results of all test types. (Note that we caution against hospitals or offices even using fax for sending test result reports to physicians. We've seen cases where a physician office fax number changed and a patient report was faxed to a local supermarket! Fax is simply not a secure method for transmission of personal health information and could land you in a heap of trouble for HIPAA violations.)

Home voicemail was also not a preferred method for most people responding to the survey (and, again, we caution you about the potential HIPAA implications of leaving PHI on a voicemail or messaging machine that might be easily accessed by parties other than the intended one). Mobile phone text messaging was also not a popular method for receiving test results. On the other hand, over 60% of respondents were comfortable with receiving results of cholesterol tests and colonoscopy results via personal voicemail, though less than 50% found this method acceptable for STI or genetic test results. Similar results were found for use of personal e-mail and password-protected websites. Password-protected websites were the only method in which >50% of respondents were comfortable receiving STI results and no method was acceptable by >50% for receiving genetic test results.

Interestingly, age was not a factor regarding technology as personal e-mail and password-protected websites were not affected by age. Age was a factor regarding a very old technology: the letter. 71% of respondents age 55 and older would be comfortable receiving a letter with results of the common tests (cholesterol level or colonoscopy results) compared to only 35% for those aged 18 to 24.

Overall, the method with which the largest portion of respondents was comfortable was the password-protected website. The authors note other research has shown patients who have access to patient portals prefer this method over phone calls.

The LaRocque study also shows how comfort levels with technology have probably increased over time. In our October 13, 2009 Patient Safety Tip of the Week “[Slipping Through the Cracks](#)” we noted a study ([Leekha 2009](#)) that looked at patient preferences for notification of test results and noted disparities between those preferences and how they were actually notified. A majority wanted notification via phone call from the physician or nurse practitioner but in reality the majority received notification either via a phone call from a nurse or by a return visit to the office. Use of more hi-tech methods (e-mail, automated answering mechanisms, etc.) were not highly regarded methods, though the average age of the population studied being 70 years may somewhat limit the generalizability of these conclusions. The authors discuss how misalignment of incentives can be a root cause for dissatisfaction (eg. patients dislike having to spend time and money for a followup office visit, whereas providers only get reimbursed for such visits and do not get reimbursed for phone calls).

Undoubtedly a big factor is the patient’s comfort level with technology. Though almost all young people have grown up with technology and use it daily, many of our older patients are not comfortable using computers, smartphones, and other technology tools. (But don’t paint all older patients with one brush! We know lots of our older patients who spend lots of time on computers and are very comfortable with modern technology.)

Any acceptable system for tracking followup on patient tests needs to do the following:

- Show that the test was done and results reached the office
- Show that the physician read the reports and acknowledged the results, whether normal or abnormal
- Show that results were communicated to the patient in an acceptable manner
- Show that the patient acknowledged receipt of the results and had the opportunity to ask questions about them
- Hopefully show that any recommended action on these results was actually undertaken

You’d think that today’s sophisticated EMR’s would have built in even better systems for tracking test results. But one big problem is still lack of interoperability among various systems. Many reports still arrive back at the office in paper format rather than an electronic format. Of course, we can scan those paper reports into most EMR’s. Don’t

forget: paper-based reports always were vulnerable to the issue of two pages sticking together, often resulting in a report being filed in the chart of the wrong patient.

Also, all the above fail to mention the other huge vulnerability – those tests that the primary care physician did not order but were ordered by others. That is especially a problem with test results done during a hospitalization where a hospitalist or specialist, rather than the PCP, attended to the patient. We discussed those in our Patient Safety Tips of the Week for March 1, 2011 “[Tests Pending at Discharge](#)” and August 21, 2012 “[More on Missed Followup of Tests in Hospital](#)”. That transition of care necessitates that responsibility for follow up needs to be transferred and the new responsible physician (the PCP in most cases) needs to know what test results are pending at the time of discharge.

Many physicians, ourselves included, do use patients themselves as a backup check on test results. We tell them “if you have not heard back from us about these tests within x days, call us”. But even then you’d be surprised how many patients never make that phone call. If not given specific instructions regarding communication of test results, the patient should always ask the physician “**When should I expect the result to be available?**” and then contact the physician if they have not heard those results within a reasonable period of time. The patient should **never assume that the test results were normal** if they have not heard from the physician or other provider.

Yes, patients are logical partners in the process and they have the most to lose when the process is flawed. But we agree with Nancy Elder that putting the burden solely on patients is problematic. The perfect system for test results management has not yet been designed. But doing the sort of process used by Litchfield and colleagues, which is sort of a combination of LEAN and FMEA, to identify vulnerabilities in your current practices can be very rewarding. Just the significant reduction in unnecessary phone calls you’d expect after implementing a new process should offset the time and effort expended to do such a study. And make sure you include not only every member of your staff in that endeavor but also the most important people – your patients.

See also our other columns on communicating significant results:

- Patient Safety Tip of the Week May 1, 2007 “[The Missed Cancer](#)”
- Patient Safety Tip of the Week February 12, 2008 “[More on Tracking Test Results](#)”
- Patient Safety Tip of the Week October 13, 2009 “[Slipping Through the Cracks](#)”
- What’s New in the Patient Safety World July 2009 “[Failure to Inform Patients of Clinically Significant Outpatient Test Results](#)”
- Patient Safety Tip of the Week March 9, 2010 “[Communication of Urgent or Unexpected Radiology Findings](#)”
- Patient Safety Tip of the Week March 1, 2011 “[Tests Pending at Discharge](#)”
- Patient Safety Tip of the Week August 21, 2012 “[More on Missed Followup of Tests in Hospital](#)”

- What's New in the Patient Safety World October 2013 "[New AHRQ Toolkit: Improving Your Office Testing Process](#)"
- What's New in the Patient Safety World January 2014 "[Email Alerts for Pending Test Results](#)"
- What's New in the Patient Safety World July 2015 "[Technology to Avoid Delays in Follow-up of Significant Results](#)"

Some of our other columns on errors related to laboratory studies:

- October 9, 2007 "[Errors in the Laboratory](#)"
- November 16, 2010 "[Lost Lab Specimens](#)"
- October 11, 2011 "[LEAN in the Lab](#)"
- March 6, 2012 "[Lab Error](#)"
- April 2012 "[Specimen Labeling Errors](#)"
- January 22, 2013 "[You Don't Know What You Don't Know](#)"
- April 15, 2014 "[Specimen Identification Mixups](#)"
- November 25, 2014 "[Misdiagnosis Due to Lab Error](#)"
- March 24, 2015 "[Specimen Issues in Prostate Cancer](#)"
- May 26, 2015 "[How Safe is the Lab You Use?](#)"

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