

Pre-Visit Laboratory Testing

Improve patient care and enhance the patient experience without spending more time and money.

AMA IN PARTNERSHIP WITH



CME
CREDITS:
0.5

Christine Sinsky, MD
Vice President, Professional Satisfaction, American Medical Association and Internist, Medical Associates Clinic and Health Plans, Dubuque, IA

How will this module help me successfully implement pre-visit laboratory testing?

- 1 Strategies to simplify the process of implementation
- 2 Answers to common questions and concerns
- 3 Advice on what you may encounter during implementation
- 4 Case studies describing how practices are successfully using pre-visit labs



Introduction

What is pre-visit laboratory testing?

This process involves ordering patient laboratory tests for completion before upcoming appointments. This gives physicians the opportunity to discuss results with patients at their visits. Pre-visit laboratory testing eliminates the need to review results later and call patients to explain results and coordinate follow-up care.



How much time and money will pre-visit laboratory testing save my practice?

This calculator allows you to estimate the amount of time and money you can save by implementing pre-visit laboratory testing in your practice. Enter the amount of time (minutes) per day spent by physicians and staff of activities that could be eliminated by pre-visit lab testing.

Your practice

\$ 3 /min	\$ 1 /min	220 days/year
Cost of physician's time	Cost of staff time	Clinic days per year

Estimate savings

<div style="background-color: #333; color: white; padding: 5px; display: inline-block;">30</div> min/day	+	<div style="background-color: #333; color: white; padding: 5px; display: inline-block;">30</div> min/day	=	<div style="background-color: #76b82a; color: white; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; margin: 0 auto;"> <div style="text-align: center; color: white; font-weight: bold; font-size: 24px;">1_H</div> </div> /DAY	=	<div style="font-size: 24px; font-weight: bold; color: white;">\$26,400</div>
Physician time on results reporting*		Staff time on results reporting*		Time saved		Annual savings with pre-visit lab

Source: AMA. Practice transformation series: pre-visit laboratory testing., 2015.

Six steps to pre-visit laboratory testing

1. Re-appoint the patient at the conclusion of each visit
2. Pre-order labs and other needed tests
3. Use a visit planner checklist to arrange the patient's next appointment(s)
4. Arrange for tests to be completed before the next visit
5. Delegate computerized order entry
6. Empower staff to manage the inbox



1 Re-appoint the patient at the conclusion of each visit

Re-appointing patients at the conclusion of each visit saves time, promotes continuity and may improve adherence to follow-up visits. It also signals to the patient that, “We want to see you again and we will plan ahead to make your visit as meaningful as possible.”

Q&A

We only book appointments six weeks in advance. If I schedule patients up to one year in advance, won't there be a lot of patients who need to reschedule, either because of their schedule or the physician's?

Many practices find that scheduling one year or more in advance saves staff time. Some patients will later have to call to reschedule, but this is less work than a system that requires all patients to call to schedule their next visit.

Some practices that choose not to book one year or more in advance instead create a system to store appointment times and associated lab requests, and then contact the patient two weeks before the due date to schedule the appointment and the previously identified pre-visit laboratory tests. Others will send the patient a postcard asking them to call in. While each of these approaches requires more “touches,” they are reasonable alternatives for clinics that do not schedule a year in advance.

Q&A

Will there be more “no-shows” if we schedule patients six or 12 months in advance?

Experience suggests that pre-visit laboratory testing, especially when coupled with an automated reminder, will decrease the rate of no-shows in a practice. Implementing an automated or manual reminder system that contacts patients via phone call, letter, email or text message gives patients the opportunity to confirm that they will be present at their next visit or indicate that they would like to reschedule.

How can I accommodate my patients who don't want to take an extra day off from work to have laboratory tests done?

Many organizations have extended laboratory hours that allow patients to come in before or after work or on weekends. In addition, some organizations have the capacity for patients to have labs drawn at a satellite facility closer to their home.

2 Pre-order labs and other needed tests

When re-appointing patients, *prospectively* identify pre-visit lab tests for the next visit. For example, at the end of an office visit schedule a patient with diabetes to return in three months with an FBS and A1c to be completed before the visit so the result is available to the patient and physician at the upcoming visit.

“

Pre-visit lab through point-of-care testing saved our clinic \$25 per visit in physician and staff time.

”

J. Benjamin Crocker, MD Internal Medicine, Ambulatory Practice of the Future, Boston, MA



Q&A

Will patients remember to come in for a lab test and their appointment if scheduled three, six or even 12 months in advance?

Many scheduling systems include automated reminder functions. When setting up the next appointment the patient can choose to receive a reminder email, text message, phone call and/or letter for their pre-visit laboratory appointment and their next office visit.

What if a patient doesn't come in for their lab appointment?

The staff can call the patient, inviting them to come in for a lab test that they missed and, when appropriate, remind them of their upcoming appointment with the physician. This phone call can serve as a safeguard to reduce no-shows for office visits. The reminder call can also alert staff to the occasional situation where the patient has moved or is not planning to keep their appointment with the physician for other reasons, allowing that time slot to be opened up for another patient.

3 Use a visit planner checklist to arrange the patient's next appointment(s)

A visit planner is a checklist that allows the physician to indicate the interval until the next appointment and any associated labs to be scheduled. It should be quick and convenient to use, requiring no more than a few seconds of physician time. The visit planner is most useful if it is customized to the practice or an individual physician or specialty.

Visit planner checklist

(MS WORD, 49 KB)

Q&A

Our physicians are overwhelmed by the process of selecting a diagnosis code for each test ordered. Do you have any suggestions?

When creating the visit planner, pair each test with the most frequently used diagnosis codes for that test. The physician can then easily check the appropriate diagnosis code for each patient, alleviating the need in most circumstances to search through a long list for the appropriate diagnosis code. Some practices work with their IT department and/or electronic health record (EHR) vendor to create an electronic version of the checklist.

I commonly order bundles of tests. Can the visit planner help with this?

Yes, you can create “order sets,” or bundles of tests grouped by condition. This simplifies the ordering process and reduces the likelihood of missing laboratory tests. For example, when using an order set a single checkmark provides diagnosis codes along with orders for an entire panel of tests. For a patient with diabetes, this could include orders and corresponding codes for A1c, lipid profile, urine Microalbumin test and creatinine blood test.

Is it desirable to have a nurse call the patient one week in advance of the appointment to arrange the needed orders?

Some organizations hire a nurse to “scrub” the patient’s chart one week before the appointment, and then use standing orders to identify the appropriate lab tests. While this involves rework (another clinician reviewing the record and developing an understanding of the patient’s needs) and risks inaccuracy (not all of the tests a patient needs will be triggered by protocol), it is still a more efficient, and more patient-oriented system than completing the laboratory tests after the appointment.

“

The next appointment starts today.

”

TheaCare Health System

4

Arrange for tests to be completed *before* the next visit

Some organizations arrange for patients to have lab testing a few days before their appointment with the physician, whereas others have developed processes for rapid turnaround of the lab testing and results so the patient may come for the lab test earlier on the day of their appointment with the physician. The goal with each approach is to have the lab results available at the visit so the physician and patient can discuss them face-to-face. The physician and patient can complete all management decisions at that time, rather than having the results slowly return to the office, generating multiple phone calls and additional follow-up work for the physician and care team to conduct.



“Discuss results face-to-face and decrease phone tag #STEPSforward”

Q&A

We use a commercial laboratory that holds future lab requests for only two weeks. How would we implement pre-visit laboratory testing?

Pre-visit laboratory testing saves the clinical practice sufficient time to be worth the investment of working with commercial laboratory vendors to hold orders for 12 months or more. Alternatively, your EHR might enable you to place future orders, which could be released by a clinical team member two weeks before the patient’s upcoming visit.

Can this same system be used for other tests?

Yes, the same processes can be used for x-rays and other diagnostic tests to achieve the same efficiencies and improvements in patient safety and patient engagement. For example, by scheduling a mammogram or follow-up chest x-ray to occur before the next appointment it is less likely that the test will be missed or that the results will be overlooked.

5

Delegate computerized order entry

Using the visit planner checklist, the physician can check off laboratory tests that need to be administered before the next visit. Entering this information into a computer may require one to two minutes. Several minutes more per task can add up to hours of time per day. Delegating order entry allows physicians to focus on providing high-quality patient care.

Q&A

Does pre-visit laboratory testing require hiring additional staff?

No. Pre-visit laboratory testing actually requires less staff time. For example, without a pre-visit lab process in place, the patient sent for a lab test after the visit may need to call for results. The receptionist or call center fields the call and passes the message to the nurse who discusses the matter with the physician. The physician must then review the chart for clinical details and communicate back to the nursing staff about next steps. The nurse then tries to contact the patient, which may require multiple attempts. These steps are avoided with pre-visit lab testing.

Does Stage 2 Meaningful Use (MU2) require physicians to personally enter laboratory and x-ray orders or suffer a financial penalty?

No. According to MU2, “Any licensed health care professional and credentialed medical assistant can enter orders into the medical record for purposes of including the order in the numerator for the objective of CPOE [computerized provider order entry] if they can originate the order per state, local and professional guidelines. Credentialing for a medical assistant must come from an organization other than the organization employing the medical assistant.” For more information, please visit the [Centers for Medicare & Medicaid Services](#) website regarding MU2 requirements.

6

Empower staff to manage the inbox

Staff can use physician-established protocols to review results and forward only those that are abnormal to the physician. This allows the physician to review the majority of labs only once, at the time of the appointment, and is referred to as “just-in-time” information processing. For example, if a staff member reviews a patient’s lab results for urgent abnormalities prior to a visit and finds none, the physician will only need to review the results once at the time of the patient’s visit.



Q&A

How should we approach pre-visit laboratory testing for patients with new or unexpected medical issues that require additional laboratory testing after a visit?

This will happen on occasion. Experience suggests this will occur in five to ten percent of planned care appointments. One key principle in re-engineering is to design your processes to manage the majority of situations. If your system is running smoothly you can handle the occasional variation, such as the need for post-visit labs.

What if the patient’s pre-visit laboratory testing yields an abnormal result?

The staff generally handles abnormal results according to established protocols and by reviewing abnormal results with the physician. For example, if a patient has a newly-elevated blood sugar result, the staff will discuss with the physician, who may choose to order additional tests prior to the appointment. This provides an opportunity to advance the clinical evaluation prior to the appointment.

We don’t send results to patients because our practice has a patient portal. Is there still a benefit to implementing pre-visit laboratory testing?

Yes. One goal of pre-visit lab testing is to enhance the value of the visit, allowing the patient and physician to talk about results face-to-face and to create a treatment plan together. The patient can ask questions about their results and engage in shared decision-making around the treatment plan.



AMA Pearls

Make important decisions about changes in patient care at the appointment.

Testing beforehand gives patients the opportunity to discuss any changes in condition and treatment with their physician face-to-face. By moving decision-making to the front end, your practice can dramatically reduce time spent resolving patient

issues *after* the appointment, including reviewing patient charts, communicating with staff, composing emails or letters and responding to callbacks.

Organize care around an annual comprehensive care visit as appropriate to specialty.

The annual comprehensive care visit is an effective organizing tool for prevention and care of chronic illness in some specialties, such as internal medicine and family medicine. By organizing multiple components of care around a single visit, you and your patients save time. For example, a patient who may otherwise be contacted to come in for a mammogram in December, a blood pressure screen in March and a pneumococcal vaccine in September can have appointments bundled and have diagnostic testing done before the comprehensive care visit, when the vaccination can also be administered. Managing care components together is more reliable than monitoring and managing each care element separately.

Develop the capacity to hold future laboratory and other test orders.

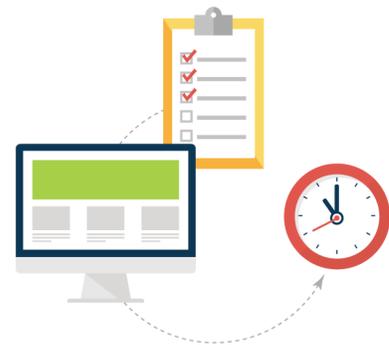
It is best is to develop the ability to house future orders either within the lab, x-ray or other electronic information system. This may require working with your commercial laboratory or hospital if the labs are run outside of your organization.

Extend the “pre-visit paradigm” to other tests.

The same pre-visit testing can be used for x-rays and other diagnostic tests with the same efficiencies and improvements in patient safety and patient engagement. For example, by scheduling a mammogram or follow-up chest x-ray to occur before the next appointment, it is less likely that the test will be missed or results will be overlooked. This process allows patients to discuss their results with their physician face-to-face.

Conclusion

Scheduling future appointments and pre-ordering needed laboratory tests before the next visit sends the right message to patients. Proactively preparing your patients for their next appointment with pre-visit laboratory testing will ensure efficient use of staff time at each visit. In addition, this approach encourages staff to take a more active role in reviewing laboratory results to support the physician during a visit.



STEPS in practice

1 Implementing Pre-Visit Laboratory Testing in Boston, MA: A Case Study

Like most physicians, Dr. Ben Crocker at the Ambulatory Practice of the Future in Boston used to see his patients first and then send them to the lab after their appointments. As the results came back he reviewed each one individually. When all test results returned he would eventually write a letter to the patient or try to reach them by phone. This often required him to relearn the scenario for which the labs were ordered, and did not provide an

opportunity for important face-to-face counseling on certain medical conditions. It was common for patients to call back with questions about their results that they did not understand from the letter or phone message.

The system of post-visit lab required handling each test result individually as it was released from the lab. Dr. Crocker was awash in results as multiple lab results from multiple patients returned to his inbox individually and were intermingled with other messages. He realized that it was not only a lot of work for him and for his staff to sort through and manage, it was inconvenient for the patient and it prevented him from being able to discuss the test results with the patient at the visit.

In 2012, his practice instituted point-of-care pre-visit laboratory testing. They compared the number of follow-up phone calls and letters from before and after implementation of the system. Pre-visit lab testing reduced the number of phone calls to the practice by 89 percent and reduced the number of letters sent to patients about lab results by 85 percent. There were significantly fewer (61 percent) revisits due to abnormal tests and fewer lab tests (21 percent) ordered overall since the results were reported in real time. This saved the practice \$25 per visit in physician and staff time. Importantly, patient satisfaction with their care also increased.

CME Accreditation Information:

Increasing administrative responsibilities—due to regulatory pressures and evolving payment and care delivery models—reduce the amount of time physicians spend delivering direct patient care. By implementing pre-visit laboratory testing, physician practices can increase the amount of information that can be discussed during their in-person encounter with patients. In addition, pre-visit laboratory testing helps decrease the amount of time the team spends following up with patients to discuss results and follow-up care in the days after the visit.

Learning Objectives:

At the end of this activity, you will be able to:

1. List steps needed to implement pre-visit laboratory testing
2. Describe how to develop a process to ensure most patients complete pre-visit labs
3. Identify ways to delegate computerized order entry to the appropriate staff

Release Date:

March 2015

End Date:

Ongoing

Accreditation Statement:

The American Medical Association is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

Credit Designation Statement:

The American Medical Association designates this enduring material for a maximum of 0.5 *AMA PRA Category 1 Credit*[™]. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Target Audience:

This activity is designed to meet the educational needs of practicing physicians.

Statement of Competency:

This activity is designed to address the following ABMS/ACGME competencies: practice-based learning and improvement, interpersonal and communications skills, professionalism, systems-based practice, interdisciplinary teamwork, quality improvement and informatics.

Planning Committee:

Kevin Heffernan, MA – AMA CME Program Committee
 Ellie Rajceвич, MPA – Practice Development Advisor, Professional Satisfaction and Practice Sustainability, AMA
 Sam Reynolds, MBA – AMA Director, Professional Satisfaction and Practice Sustainability
 Christine Sinsky, MD – Vice President, Professional Satisfaction, American Medical Association and Internist, Medical Associates Clinic and Health Plans, Dubuque, IA
 Rhoby Tio, MPPA – AMA Senior Policy Analyst, Professional Satisfaction and Practice Sustainability

Author Affiliations:

Christine Sinsky, MD, Vice President, Professional Satisfaction, American Medical Association and Internist, Medical Associates Clinic and Health Plans, Dubuque, IA

Faculty:

Beth Averbeck, MD, Associate Medical Director, Primary Care, HealthPartners Medical Group; **John Beasley, MD**, Family Physician, School of Medicine and Public Health, University of Wisconsin— Madison; **J. Benjamin Crocker, MD**, General Internist, Medical Director, Ambulatory Practice of the Future, Massachusetts General Hospital; **Thomas P. Healy, JD**, AMA, Vice President and Deputy General Counsel; **David Lynch, MD**, Principal, Transformation Medical Practice Consulting; **Jeffrey Panzer, MD**, Medical Director, Oak Street Health; **Ramin Poursani, MD**, Medical Director, Family Health Center Clinic, University of Texas Health Science Center at San Antonio; **Ellie Rajceвич, MPA**, Practice Development Advisor, Professional Satisfaction and Practice Sustainability, AMA; **Sam Reynolds, MBA**, AMA Director, Professional Satisfaction and Practice Sustainability; **Christine Sinsky, MD**, Vice President, Professional Satisfaction, American Medical Association and Internist, Medical Associates Clinic and Health Plans, Dubuque, IA; **Rhoby Tio, MPPA**, AMA Senior Policy Analyst, Professional Satisfaction and Practice Sustainability; **Rachel Willard-Grace, MPH**, Research Manager, Center for Excellence in Primary Care, Department of Family & Community Medicine, University of California–San Francisco

About the Professional Satisfaction, Practice Sustainability Group:

The AMA Professional Satisfaction and Practice Sustainability group has been tasked with developing and promoting innovative strategies that create sustainable practices. Leveraging findings from the 2013 AMA/RAND Health study, “Factors affecting physician professional satisfaction and their implications for patient care, health systems and health policy,” and other research sources, the group developed a series of practice transformation strategies. Each has the potential to reduce or eliminate inefficiency in broader office-based physician practices and improve health outcomes, increase operational productivity and reduce health care costs.

Disclosure Statement:

The content of this activity does not relate to any product of a commercial interest as defined by the ACGME; therefore, neither the planners nor the faculty have relevant financial relationships to disclose.

Glossary Terms

Re-appoint: To schedule any follow-up appointments for patients at their current visit.

Disclosure Statement

The project described was supported by Funding Opportunity Number CMS-1L1-15-002 from the U.S. Department of Health & Human Services, Centers for Medicare & Medicaid Services. The contents provided are solely the responsibility of the authors and do not necessarily represent the official views of HHS or any of its agencies.

References

1. Baron R. What’s keeping us so busy in primary care? A snapshot from one practice. N Engl J Med. 2010;**363**:495-496. <http://www.nejm.org/doi/full/10.1056/NEJMon0910793>. Accessed May 15, 2014.

2. Crocker B, Lewandrowski EL, Lewandrowski N, Gregory K, Lewandrowski K. Patient satisfaction with point-of-care laboratory testing: report of a quality improvement program in an ambulatory practice of an academic medical center. *Clin Chim Acta*. 2013;**424**:8-11.
3. Crocker JB, Lee-Lewandrowski E, Lewandrowski N, Baron J, Gregory K, Lewandrowski K. Implementation of point-of-care testing in an ambulatory practice of an academic medical center. *Am J Clin Pathol*. 2014;**14**(5):640-646.
4. Casalino L, Nicholson S, Gans DN, et al. What does it cost physician practices to interact with health insurance plans? *Health Aff*. 2009;**28**(4):533-543. <http://content.healthaffairs.org/content/28/4/w533.full>. Accessed May 15, 2014.
5. Day J, Scammon DL, Kim J, et al. Quality, satisfaction and financial efficiency associated with elements of primary care practice transformation: preliminary findings. *Ann Fam Med*. 2013;**11**(suppl 1):S50-S59. http://annfammed.org/content/11/Suppl_1/S50.full.pdf. Accessed May 15, 2014.
6. Farber J, Siu A, Bloom P. How much time do physicians spend providing care outside of office visits? *Ann Intern Med*. 2007;**147**:693-698. <http://annals.org/article.aspx?articleid=737623>. Accessed May 15, 2014.
7. Gottschalk A, Flocke SA. Time spent in face-to-face patient care and work outside the examination room. *Ann Fam Med*. 2005;**3**(6): 488-493. <http://www.annfammed.org/content/3/6/488.long>. Accessed May 15, 2014.
8. Hunt VL, Chaudhry R, Stroebel RJ, North F. Does pre-ordering tests enhance the value of the periodic examination? Study design – Process implementation with retrospective chart review. *BMC Health Serv Res*. 2011;**11**:216. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3180358/>. Accessed May 15, 2014.
9. Kabcenell AI, Langley J, Hupke C. Innovations in Planned Care. IHI Innovation Series white paper. Cambridge, MA: Institute for Healthcare Improvement; 2006. <http://www.ihl.org/knowledge/Pages/IHIWhitePapers/InnovationsinPlannedCareWhitePaper.aspx>. Accessed May 15, 2014.
10. McAllister JW, Cooley WC, Van Cleave J, Boudreau AA, Kuhlthau K. Medical home transformation in pediatric primary care—what drives change? *Ann Fam Med*. 2013;**11** (suppl 1):S90-S98. http://annfammed.org/content/11/Suppl_1/S90.full. Accessed May 15, 2014.
11. Montori VM, Dinneen SF, Gorman CA, et al; and Translation Project Investigator Group. The impact of planned care and a diabetes electronic management system on community-based diabetes care: the Mayo Health System Diabetes Translation Project. *Diabetes Care*. 2002;**25**(11):1952-1957. <http://care.diabetesjournals.org/content/25/11/1952.full.pdf>. Accessed May 15, 2014.
12. Moore LG. Escaping the tyranny of the urgent by delivering planned care. *Fam Pract Manag*. 2006;**13**(5):37-40. <http://www.aafp.org/fpm/2006/0500/p37.html>. Accessed May 15, 2014.
13. Schiff GD. Medical error: a 60-year-old man with delayed care for a renal mass. *JAMA*. 2011;**305**(18):1890-1898.
14. Sinsky CA, Willard-Grace R, Schutztbank AM, Sinsky TA, Margolius D, Bodenheimer T. In search of joy in practice: a report of 23 high-functioning primary care practices. *Ann Fam Med*. 2013;**11**(3):272-278. <http://annfammed.org/content/11/3/272.full>. Accessed May 15, 2014.
15. Stone EG, Morton SC, Hulscher ME, et al. Interventions that increase use of adult immunization and cancer screening services: a meta-analysis. *Ann Intern Med*. 2002;**136**(9):641-651. <http://annals.org/article.aspx?articleid=715257>. Accessed May 15, 2014.