
Connecting the Providers in Your Healthcare Community: One Step at a Time

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SUMMARY • The practice of medicine is a business of communications. Communications can be facilitated by technology. Healthcare providers organized in medical practices, hospitals, and nursing homes have tremendous needs to effectively communicate within their organizations and between their organizations.

The focus on electronic medical records comes not only from the need to communicate but also from a desire to reduce administrative costs and to improve services and quality of care to patients. Frustration with the inadequacies of a paper chart-filing system drives providers in all delivery venues toward technology at an increasing rate. Implementation barriers to technology adoption in medical practices can be overcome by incremental approaches and knowledge-transfer assistance from affiliated community healthcare partners such as hospitals.

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WHAT DO WE WANT FROM IT?

The national focus on a digital medical record is bringing a whole new set of acronyms into mainstream media coverage: EHR, EMR, CCR.¹ What do they all mean? Is the desired outcome a computer-stored record of health information about one person linked by a personal identifier that becomes a longitudinal record? Is it a

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collective vision of many systems and components derived from relevant patient information? Is it interoperability between incompatible, disparate systems? Are the records web-based? Is the system paperless? Does it mean all users of the patient's electronic chart are entering data via a software application?

Even if they have computers, most physician practices are still miles away from the ultra-efficient paperless office (Toth 2002). The Institute of Medicine's 1999 report, *To Err Is Human: Building a Safer Health System*, raised the level of health consumer awareness regarding errors in the industry (Kohn, Corrigan, and Dunaldson 2000). The IOM's follow-up report of April 2003, *Health Professions Education: A Bridge to Quality* included specific recommendations on physicians' core competencies, one of which is to "utilize information technology to communicate, manage knowledge, mitigate error, and support decision making" (Greiner and Knebel 2003).

Beyond all the national attention and discussion, as providers we are hopeful that EHRs will reduce overhead, save some costs, and make our operation more efficient. Electronic medical records would save the average primary care provider an estimated \$86,400 over five years, com-

pared to traditional paper-based methods (Wang et al. 2003). Executives of large integrated delivery systems think that if we can acquire the data to demonstrate quality-of-care initiatives and protocols among our patients then we can negotiate improved third-party payer reimbursements. Overall, adults in this country receive 55 percent of recommended care (McGlynn 2003). How often have you been asked, "When was your last tetanus shot?" All too frequently, providers have to ask patients questions the answer for which is buried in a paper chart. The unwieldy paper chart makes determining when a patient is due for routine preventive services and screenings difficult. Mostly, we are just plain frustrated by the paper pushing that goes into maintaining that paper chart and tired of not being able to find the chart when we need it.

Physicians Practice conducted a survey during July 2005 in which physicians identified their most pressing technology problems in practice as follows:

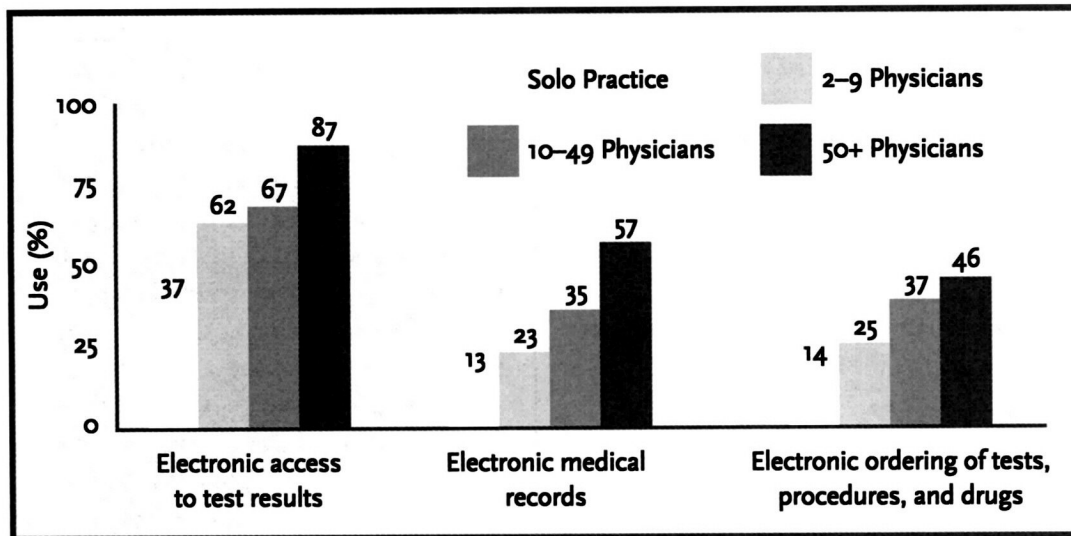
- Availability of paper charts
- User-friendly scheduling/communication
- Lab test interface
- Cost and complexity to improve on paper chart
- Today's e-prescribing working with tomorrow's EHR
- Multiplicity of needs in large integrated delivery systems
- Getting help from hospitals and labs to use technology

FACTORS FOR SUCCESS

Hospital Involvement

Hospitals have provided physicians with online access to hospital information systems since the 1980s when character-based systems were displayed on green screens.

FIGURE 1. "Routine/Occasional" Use of Technology by Practice Size



Source: Audet et al. (2005). Used with permission.

Physicians often delegated access to medical secretaries and nurses. Printing discharge summary notes and ancillary test results, which are filed in the patient's paper chart, are logical clerical clinical functions.

In fact, hospitals can learn from ancillary testing centers and mimic their "push v. pull" method for delivery of information to the ordering physicians. Primary care physicians are often surprised when a patient follows up with an office visit after a hospital admission. If the primary care physician was not the admitting physician, and she didn't know the patient had been admitted, the primary care physician could not be expected to log onto the hospital information system to pull down a discharge summary report on that patient. Imagine how a hospital IT communications policy that pushes discharge summary reports automatically to a primary care provider would delight that physician and improve the follow-up care for the patient.

With the advent of graphic user interface applications, hospitals and software

vendors have been successful in driving physicians to access information electronically, as shown in Figure 1.

Laboratory Assistance

Physician offices typically receive lab test results electronically via a dedicated printer or a fax machine. The EHR implementation success is directly related to lab data connectivity. A paper chart often contains a flow sheet where lab values are transferred manually for easy view of trends. The direct data interface from a lab information system to a physician practice EHR provides that same type of flow sheet view more effectively and with greater capabilities such as graphing. Without IT support, planning and coordinating interfaces with lab applications for patient test orders and results are activities that physicians find costly and frustrating.

Identified Objectives

Physician practices seldom have ready access to IT expertise for strategic planning, project management, or supporting routine functions and network administration.

FEATURE

Physicians often look to hospital administration for consultative guidance and direction as well as direct referrals for IT support.

How can a hospital or integrated delivery system support its medical staff within their practices? The most successful implementations of technology solutions to clinical-information needs identify the specific objective(s) that will be delivered. The physician practice needs consultative assistance that the hospital may be able to facilitate or provide directly to address questions such as:

- What is the primary goal to address in the practice?
- Is operational efficiency in question?
- Is the daily chaos a factor in staff turnover?
- Can the practice increase operational capacity without increasing overhead?
- Does the practice need to facilitate communications between physicians and nursing, and between nursing and patients?

MOVING FROM PAPER TO TABLET

Virtually no organization is able to go directly from a completely paper-based clinical documentation environment to one that is totally paperless and as comprehensive as that described by most experts for EHR systems. Success is attributed to a defined methodology to plan for achieving the benefits of EHR along a logical migration path. An EHR is not a single system, but a complex of components, and a migration path permits an organization to structure a clear direction toward achieving an EHR.

Readiness Planning

One component of phases within the migration path is readiness planning. An

organization's readiness assessment must address the preparatory steps in describing and achieving consensus on a vision of the EHR. The establishment of expectations for achieving benefits such as patient safety, quality of care, and return on investment is a preliminary requirement to the successful selection and implementation of appropriate solutions. The organization's culture and technology readiness set the stage for the various process changes and solutions needed to achieve the vision and meet expectations and objectives. Exhibit 1 at the end of the article is a Sample Readiness Self-Assessment Tool to assist in assessing an organizations readiness.

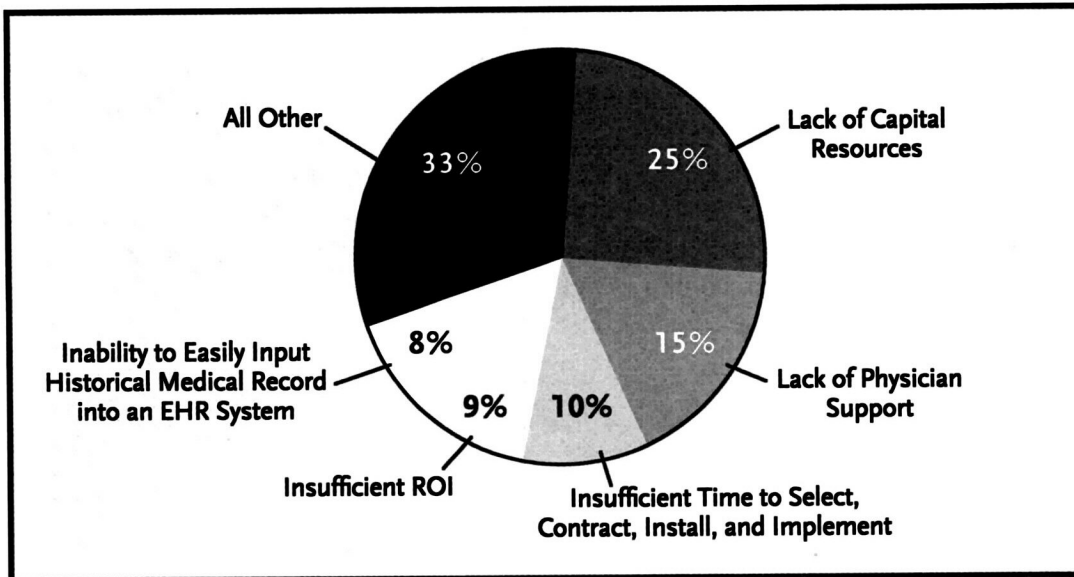
System Implementation

System implementation is the stage along the defined migration path in which specification, creation, and installation of the technology and applications occur, attitudes are changed and basic skills built, and policies and processes of each of the components of the EHR are defined and implemented. The focus on the objective to be achieved will determine the optimal EHR strategy. The medical practice and especially the primary care provider practice is an optimal starting point for implementation. The patient information maintained by the primary care provider allows centralization of the data critical to coordinating care for a patient as she moves among specialists' care and hospital delivery systems.

Selecting the Components of the EHR

Typical components of the medical practice EHR are online encounter notes and a medications database with prescription writing, orders and results tracking and reporting, alerts and prompts regarding allergies and interactions, and care protocols and disease

FIGURE 2. What Holds Practices Back from EHR Adoption?



Source: MGMA (2004b). Used with permission.

management guidelines. Sharing these electronic or digital components across practices creates opportunities for improved coordination of care for patients.

The EHR system selection process must drive toward the solution that provides benefits associated with the desired objective. Too often a selection process can become derailed by all the potential possibilities, regardless of the ability to meet specific, defined needs. The bells and whistles that each system demonstrates are often distractions from the need to fulfill the daily operational processes associated with patient encounters. The core system functionality must address those processes and procedures that account for 80 percent of the daily activity in the medical practice. A system may showcase a “really neat” feature that will only provide utility to 20 percent of the daily work in the practice. Diligence to needs identified in the readiness planning process is required throughout the system evaluation process.

THE INCREMENTAL APPROACH

Various barriers, which differ among practices, must be overcome to increase rates of adoption of the EHR in medical practices. According to survey data compiled by the Medical Group Management Association (MGMA) and distributed by MGMA with support from the Agency for Healthcare Research and Quality, a majority of respondents to the survey questionnaire say they handle some functions electronically, but the level of adoption varies (MGMA 2004b). Groups that have not implemented an EHR system gave lack of capital resources as the number one reason (cited by 25 percent); followed by lack of physician support; insufficient time to select, contract, install, and implement EHR; insufficient return on investment; and an inability to easily input historic medical record data into an EHR system (Figure 2). Other reasons cited include an inability to integrate the EHR with practice billing/claims submission

FEATURE

systems, lack of standards, lack of support from practice administrators, and security concerns.

An incremental approach to technology adoption increases the rate of success of the medical practice in the EHR implementation to meet desired objectives. Rosabeth Kantor of the Harvard Business School said "Change is disturbing when it is done to us. Change is exhilarating when it is done by us." The EHR is a change-management process.

Stepping into the EHR

The multidisciplinary team is instrumental in identifying how work flow will change. Medical records staff, nursing support, medical secretaries, and receptionists are all involved with the paper chart at various points in both the non-visit encounter and the patient-visit encounter. Identification of variations in paper flow as well as patient flow prepares staff for the process of applying technology to work flow processes to improve efficiencies. Determination of standards, such as phone messaging, vaccination templates, and well-child visits, facilitate EHR implementation across provider groups. Each activity and work flow that involves access to and use of the paper chart must be evaluated for change. The EHR project involves change management and process redesign. An example of prescription re-issue work flow and a modified work flow after EHR implementation is provided in Figure 3.

Technology is an iterative process. As users acquire more utility from technology, they begin to identify new functionality that would enhance daily operations, and soon a "full-blown" EHR is next on the wish list. A successful EHR system

selection process is a multidisciplinary team project. Every role within the practice must participate in the features and functions identification to meet the needs and objectives for system implementation.

Low-cost, easy-to-implement solutions that do not require change in the physician work flow yet can impact operational efficiency positively will move the medical practice toward the EHR. What are these incremental solutions?

- *Access to the patient's record.* Providing an easy view of the patient's record can be accomplished with access to the most recent visit note.
- *Electronic medications database.* The practice can reissue medications more efficiently with an electronic medications database that is maintained for each of the practice's patients.
- *Diagnostic test results.* Diagnostic test results can be made accessible electronically with a fax server and a scanning solution.
- *Enhanced web services.* The average number of chart pulls for nonvisiting patients (prescription refills, lab results, phone calls, correspondence) is 60 percent of the daily pulls (Dunn 2005). Give patients the ability to communicate electronically with your office by enhanced web services and the result is a reduction in chart pulls.
- *Provide electronic prescribing solutions.* Medical Group Management Association analyzed administrative support costs as reported in surveys of physician group practices and determined that \$15,769 was spent per full-time equivalent (FTE) physician annually to manage patient prescription issues

FIGURE 3. Sample Prescription Reissue Work Flows Before and After EHR

CURRENT WORK FLOW	EHR WORK FLOW
1. Patient or pharmacy calls or faxes physician practice for a refill.	1. Patient or pharmacy calls or faxes physician practice for a refill.
2. Support staff writes down the message (live or from voice mail) or retrieves fax.	2. Nurse accepts call.
3. Written message/fax sits in out-box.	
4. Written message/fax is carried to medical records.	
5. Patient's paper chart pulled, if it is found.	
6. Chart sits in out-box.	
7. Chart is carried to nurse.	
8. Nurse reviews chart containing medications previously ordered by provider and determines if current test results are present or need to be requested.	3. Nurse reviews chart online, which includes a list of all current medications, all current lab results, refill status, and other information to approve refill, or nurse requests physician review of refill request.
9. Nurse writes recommendation for physician.	
10. Chart with nurse's note sits in out-box.	
11. Chart is carried to physician's office or in-box.	
12. Chart waits for physician's review.	
13. Physician reads note and chart.	4. Physician is alerted to refill request and reviews nurse's recommendation.
14. Physician evaluates information, writes prescription, or requests appointment or diagnostic test.	5. Physician evaluates information, writes and transmits prescription to pharmacy (or to nurse), or transmits request for appointment or diagnostic test to clerical staff to notify patient.
15. Physician documents in the chart or dictates for transcription.	
16. Chart and prescription sit in physician out-box.	
17. Chart and prescription are carried to nurse.	
18. Nurse either (a) puts the prescription in an envelope addressed to patient and calls patient or (b) calls/faxes pharmacy.	6. Nurse or physician transmits prescription refill to pharmacy of patient's choice.
19. Chart sits in out-box.	
20. Chart is carried to medical records.	
21. Medical records files chart.	

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within the practice (MGMA 2004a) (Figure 4). Administrative costs can be reduced by providing telephone triage nurses with access to physician dictated notes that include medications prescribed for patients. A practice that implements an electronic prescribing solution also reduces the administrative burden of managing the chart retrieval and delivery process to support prescription telephone encounters.

Reinventing the Patient Chart

Reinventing the patient chart electronically can be as easy as reorganizing the folders on the electronic desktop. Folders for each provider, or folders for each letter of the alphabet, created on the office computer network establishes an electronic file cabinet. Shortcuts to each folder on the triage nurses' desktop PCs will provide quick access and help any technology-challenged clinical staff realize they can achieve more by using technology. Develop a naming convention for transcriptionists to electronically save each patient's dictated note individually and file in the appropriate electronic folder. A file-naming convention such as Lastname-FirstnameYYYYMMDD-document type (NelsonRosemarie20050224-OV) standardizes the search each triage nurse will use to locate a patient's most recent note.

Access to information will be immediate (reducing phone tag that nurses play with patients) and about one-third of the chart pulls in the office will be eliminated. The average chart pull costs a practice \$5 to \$12 dollars (Wang et al. 2003; Bingham 1997). A return on the investment for the revised transcription processes, desktop PCs for the triage nurse stations, and introductory employee training is achieved within weeks.

Correspondence and test results are easy additions to the e-file folders, whether these are received via the mail or fax. Medical records staff will do the electronic naming and filing, and will still print paper copies to maintain a comprehensive paper chart. Electronic test results will reduce the chart pulls when patients call in to check on a result.

A Word on Converting Existing Data

Every practice must develop a strategy for the conversion of existing data that are found in the paper chart. Some of the paper information may also be available electronically. For example, transcribed reports are often saved electronically as standard backup of network files or by outsourced transcription services. If the previous two years of dictation (which will most likely cover the bulk of the physician's patient panel) can be imported into the EHR, the physicians will have very useful information readily available; this can serve as an incentive for immediate use of the EHR.

Seldom is the paper chart reviewed end-to-end in preparation for or during a patient encounter, and therefore economies can be achieved when converting the paper chart to the EHR. The project team must determine what existing patient information will be included in the EHR system and the best method for acquiring that information. Tremendous utility is provided by entering a patient's active medication list to a prescription module versus scanning in a page that contains the patient's medicines. Is the cost of data entry offset by the utility provided, including the ability to reissue medicines at a future encounter? Does the data-entry function completed during conversion activities provide opportunities for staff training and increased comfort with the new technology tool?

FIGURE 4. Time and Cost Spent per FTE Physician

PER FTE PHYSICIAN	HOURS/YEAR	COST/FTE
Support staff time on phone with pharmacies—Formulary	25.8	\$375
Support staff time on phone with pharmacies—Rx substitutions (generic)	23.7	\$344
Support staff time on phone with pharmacies—Rx refills	133.0	\$1,929
Support staff time on phone with pharmacies—Other issues	26.9	\$390
Physician time on phone with pharmacies—Formulary issues	15.7	\$1,570
Physician time on phone with pharmacies—Rx substitutions (generic)	14.4	\$1,442
Physician time on phone with pharmacies—Rx refills	80.8	\$8,083
Physician time on phone with pharmacies—Other	16.4	\$1,636
Support staff time verifying patient coverage/copayment/deductibles	267.3	\$3,876
Support staff time resubmitting denied claims	63.8	\$925
Total cost per year		\$20,570

Source: MGMA (2004a). Used with permission.

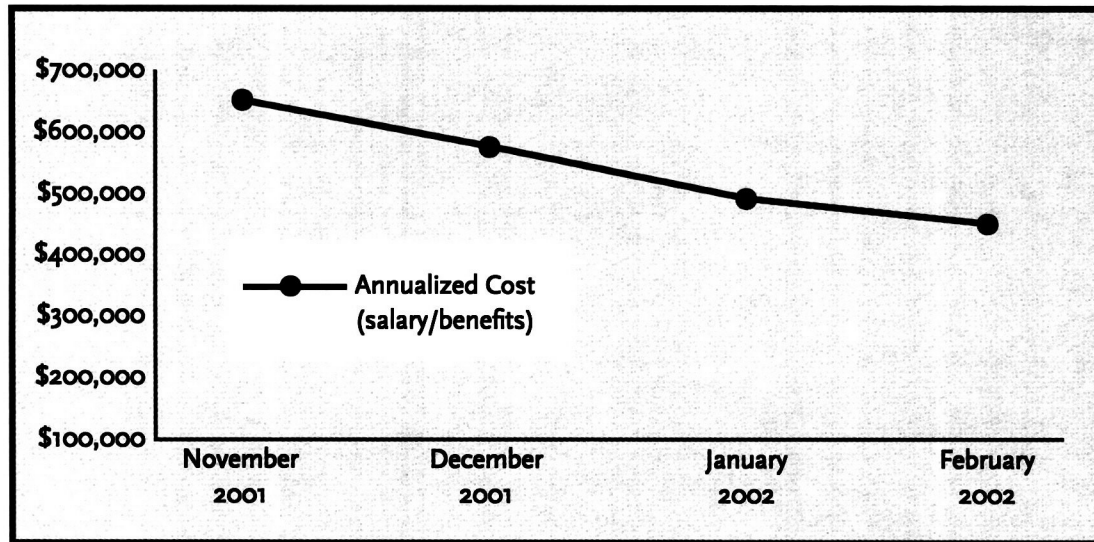
Training

Hospitals have developed training departments and expertise in creating curricula that can be applied in the EHR adoption process within the physician practice. Physician practices must dedicate time to training and allow time for individual, hands-on training for nursing support staff. The practice should also plan for a period of adjustment to accommodate the time that new users need to adopt the new tools and to adjust work habits. This is most readily accommodated by structuring buffer time into the patient appointment schedule for the first few weeks of live operation using the EHR system.

The Web Site

It is not uncommon for a physician practice to provide a web site for patients. Few practices provide interactive services to allow patients to schedule appointments, request a prescription reissue, access lab test results, or complete their past medical, social, and family health history in advance of their appointment. Allowing patients to self-serve their needs at their convenience can reduce practice costs as demonstrated by one practice in Figure 5. Assistance with web-site development is another service the hospital administration can offer the medical staff.

FIGURE 5. Actual Savings in Phone Staff for One Provider



CONCLUSION

The focus on technology in healthcare creates high expectations. Physician practices will be better served by starting technology implementation with a project that will allow the achievement of even a small victory with little risk of failure. The ability to access information via a PC may be a new tool for nursing staff, and offering access and communication services via the web will be new to most provider-patient relationships. The intangible advantage to incremental technology implementation is the adaptation skill acquired by everyone in the practice. Practice operations will benefit from those types of implementations that don't require major change in provider behaviors and practice patterns; major changes can be far more problematic to orchestrate, as the healthcare industry learned in the 1980s and 1990s.

The question is not "if," but "when" physician practices will adopt EHRs. Why not ease the transition by assisting

practices to start down the path now with a low-investment and low-stress first step on the EHR highway?

NOTE

1. electronic health record, electronic medical record, continuous care record.

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EXHIBIT 1. Sample Readiness Self-Assessment Tool

Date of assessment: ____/____/____ If not onsite, note method of interview: _____

<p>1. Please check the work flow issues that cause the greatest problems in your office: (check all that apply)</p>	<p><input type="checkbox"/> Having medical records unavailable</p> <p><input type="checkbox"/> Unable to stay on office schedule</p> <p><input type="checkbox"/> Poor legibility of medical records</p> <p><input type="checkbox"/> Patients unable to access provider when they want or need</p> <p><input type="checkbox"/> Patient waits</p> <p><input type="checkbox"/> Inefficient use of resources</p> <p><input type="checkbox"/> Chart chasing</p> <p><input type="checkbox"/> Phone & fax processing</p> <p><input type="checkbox"/> Results (e.g., lab) tracking</p> <p><input type="checkbox"/> Patient satisfaction</p> <p><input type="checkbox"/> Medication refills</p> <p><input type="checkbox"/> Timely referrals</p> <p><input type="checkbox"/> Patient check-in/check-out</p> <p><input type="checkbox"/> Other _____</p>
<p>2. What work flow solutions have you implemented or considered? (check all that apply)</p>	<p><input type="checkbox"/> Hired a practice management consultant</p> <p><input type="checkbox"/> Hired additional clinicians (e.g. NP, PA)</p> <p><input type="checkbox"/> Reorganized supplies in exam room/office</p> <p><input type="checkbox"/> Implemented patient tracking system</p> <p><input type="checkbox"/> Changed staffing to address phone triage</p> <p><input type="checkbox"/> Outsourced billing</p> <p><input type="checkbox"/> Changed work flow</p> <p><input type="checkbox"/> Automated phone service</p> <p><input type="checkbox"/> Other _____</p>

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EXHIBIT 1. Sample Readiness Self-Assessment Tool (cont'd.)

3. Average number of laboratory orders per day?	
4. Of these orders, what percentage is referred to each of the following settings?	<input type="checkbox"/> % In office <input type="checkbox"/> % Practice-owned lab off-site <input type="checkbox"/> % Spectrum Laboratory <input type="checkbox"/> % Quest Diagnostic <input type="checkbox"/> % LabCorp <input type="checkbox"/> % Community hospital/medical center <input type="checkbox"/> % Other _____
5. Thinking about how your practice receives lab reports, estimate what percentage is received by each of the following methods.	<input type="checkbox"/> % Electronic <input type="checkbox"/> % Hard copies <input type="checkbox"/> % Fax <input type="checkbox"/> % Other _____
6. On average, about how many calls each week do you or your staff make to the lab about lab reports?	<input type="checkbox"/> None <input type="checkbox"/> 5 – 10 <input type="checkbox"/> Less than 5 <input type="checkbox"/> Greater than 10
7. Average number of radiology orders per day?	
8. Average number of other diagnostic test or procedure orders per day?	
9. Who places the orders?	
10. Average number of new prescriptions per day per provider? (nonrefill)	<input type="checkbox"/> None <input type="checkbox"/> 30 – 39 <input type="checkbox"/> Less than 10 <input type="checkbox"/> 40 – 49 <input type="checkbox"/> 10 – 19 <input type="checkbox"/> 50 – 59 <input type="checkbox"/> 20 – 29 <input type="checkbox"/> Greater than 59
11. Average number of prescription refills per day per provider?	<input type="checkbox"/> None <input type="checkbox"/> 30 – 39 <input type="checkbox"/> Less than 10 <input type="checkbox"/> 40 – 49 <input type="checkbox"/> 10 – 19 <input type="checkbox"/> 50 – 59 <input type="checkbox"/> 20 – 29 <input type="checkbox"/> Greater than 59
12. On average, how many patients per day need their prescriptions rewritten?	<input type="checkbox"/> None <input type="checkbox"/> 5 – 10 <input type="checkbox"/> Less than 5 <input type="checkbox"/> Greater than 10
13. On average, please estimate the number of follow-up calls or faxes your practice receives each week for prescription issues?	<input type="checkbox"/> None <input type="checkbox"/> 30 – 39 <input type="checkbox"/> Less than 10 <input type="checkbox"/> 40 – 49 <input type="checkbox"/> 10 – 19 <input type="checkbox"/> 50 – 59 <input type="checkbox"/> 20 – 29 <input type="checkbox"/> Greater than 59

14. To what extent are any of the above order and/or results automated? (Will it be able to integrate with PMS/EHR?)	
15. Average number of calls from other individuals (e.g., other physicians, pharmacists, insurers) per day requiring a chart pull?	
16. What are other reasons (aside from the above) that cause a chart to be pulled?	
17. What is the average amount of time it takes to pull a chart? (Observe this.)	
18. What is the process used for locating a misplaced/missing chart?	
19. How much of the administrative staff's daily work is spent on inefficient tasks? (e.g., searching for charts)	<input type="checkbox"/> Under 1 hr <input type="checkbox"/> Greater than 2 hrs <input type="checkbox"/> 1 – 2 hrs <input type="checkbox"/> Other _____
19a. How much of the administrative staff's daily work is spent looking for lost messages?	<input type="checkbox"/> Under 1 hr <input type="checkbox"/> Greater than 2 hrs <input type="checkbox"/> 1 – 2 hrs <input type="checkbox"/> Other _____
20. Does the staff verify insurance?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Same day as appointment <input type="checkbox"/> Day before appointment <input type="checkbox"/> Two days before appointment <input type="checkbox"/> At time appointment is scheduled
20a. Does the staff verify patient's benefits eligibility?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Same day as appointment <input type="checkbox"/> Day before appointment <input type="checkbox"/> Two days before appointment <input type="checkbox"/> At time appointment is scheduled
21. How many referrals to specialists do you make each week?	<input type="checkbox"/> None <input type="checkbox"/> 5 – 10 <input type="checkbox"/> Less than 5 <input type="checkbox"/> Greater than 10
22. To what extent are these automated?	

EXHIBIT 1. Sample Readiness Self-Assessment Tool (cont'd.)

23. What types of manual logs are maintained by the clinic?	
24. How do you track patient recall?	
25. Do you use transcription services?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> % employed transcription <input type="checkbox"/> % outsourced transcription
25a. If yes, what are your average transcription costs per month?	\$ _____
26. How are dictated reports currently stored and retrieved?	
27. Do you have problems with or concerns about your coding?	<input type="checkbox"/> Yes <input type="checkbox"/> No
28. Are there any plans for significant changes within the clinic in the next few years (e.g., growth, new providers or specialty, anyone retiring soon, new affiliations, moves)? Specify.	
29. Of all your patients seen daily, what percentage has one or more chronic illnesses (i.e. CAD, diabetes, hypertension, osteoarthritis, heart failure, depression)?	_____ %
30. Which staff members have direct access to a computer/terminal? (check all that apply and number of hours used on average each day)	<input type="checkbox"/> Physicians <input type="checkbox"/> Clinicians <input type="checkbox"/> Administrative staff <input type="checkbox"/> Other _____
31. Are you currently using scanning technology?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> For patient insurance cards <input type="checkbox"/> For EOMBs <input type="checkbox"/> For test results <input type="checkbox"/> Other _____
32. Does the staff use instant messaging within the office to communicate patient arrivals or for phone messages?	<input type="checkbox"/> Yes <input type="checkbox"/> No

33. Number of computers connected to a network?	
34. Do you share documents or information on your network? Specify types of documents.	<input type="checkbox"/> Yes <input type="checkbox"/> No Types _____
35. Do you communicate within your practice using e-mail?	<input type="checkbox"/> Yes <input type="checkbox"/> No
35a. Do you communicate with your patients using e-mail? (indicate even if "unofficially")	<input type="checkbox"/> Yes <input type="checkbox"/> No
36. Does your practice have a high-speed Internet connection?	<input type="checkbox"/> Yes <input type="checkbox"/> No
37. If yes, is the Internet connection used by the staff daily?	<input type="checkbox"/> Yes <input type="checkbox"/> No
38. If yes, what are the primary uses for the Internet connection? (check all that apply)	<input type="checkbox"/> PubMed (peer-review resource) <input type="checkbox"/> Electronic claims submission <input type="checkbox"/> Hospital/medical center (data transfer) <input type="checkbox"/> Referral request submission <input type="checkbox"/> Health plan reports <input type="checkbox"/> E-mail <input type="checkbox"/> Medical charts <input type="checkbox"/> E-labs <input type="checkbox"/> Transcription <input type="checkbox"/> E-prescribing <input type="checkbox"/> Don't know <input type="checkbox"/> Other _____
39. Does your practice use an electronic registration and scheduling system?	<input type="checkbox"/> Yes <input type="checkbox"/> No
40. Does your practice confirm appointments?	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, how? (check all that apply): <input type="checkbox"/> Staff call all patients <input type="checkbox"/> Staff call select patients (i.e., procedures, annual exams, etc.) <input type="checkbox"/> Automated telephone reminder system <input type="checkbox"/> E-minders via the web <input type="checkbox"/> Patients call back to confirm appointment

EXHIBIT 1. Sample Readiness Self-Assessment Tool (cont'd.)

<p>41. Does your practice management system (PMS/billing system) provide interfaces to electronic health record (EHR) systems?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>42. Have you explored any EHR systems?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>
<p>43. If yes, how have you gone about it? (check all that apply)</p>	<p><input type="checkbox"/> Read an article in peer-reviewed journal <input type="checkbox"/> Attended a vendor demonstration <input type="checkbox"/> Completed an online vendor return on investment <input type="checkbox"/> Talked to a colleague who uses EHR <input type="checkbox"/> Visited colleague's practice to see EHR <input type="checkbox"/> Read an article in trade/medical magazine(s) <input type="checkbox"/> Other _____</p>
<p>44. If you have NOT implemented an EHR system, why not? (Please prioritize in order with "1" being the most important and "10" being the least important.)</p>	<p><input type="checkbox"/> Financial constraints <input type="checkbox"/> Unable to secure all partners' / clinicians' commitment to use EHR <input type="checkbox"/> Vendor support was inadequate for technological needs <input type="checkbox"/> Initial data entry is too labor intensive <input type="checkbox"/> Vendor stability and viability <input type="checkbox"/> Software requires extensive customization to fit into practice <input type="checkbox"/> Already spending additional hours at office every day <input type="checkbox"/> Difficult to select system <input type="checkbox"/> Do not know where to begin <input type="checkbox"/> Other _____</p>
<p>45. What are your goals (benefits) for using an EHR? (Please prioritize in order with "1" being the most important and "9" being the least important.)</p>	<p><input type="checkbox"/> Reduce transcription costs <input type="checkbox"/> Capture all services provided at each visit <input type="checkbox"/> Reduce paper-based medical charts <input type="checkbox"/> Receive return on investment associated with software/hardware <input type="checkbox"/> Reduce administrative costs <input type="checkbox"/> Provide more services to patients per visit <input type="checkbox"/> Improve phone and fax processing <input type="checkbox"/> Timely access to patient records <input type="checkbox"/> Other _____</p>

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