

**Addressing Common Barriers
to EHR Adoption**

*A Practical Guide for
Health Care Providers*



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**Minnesota Department of Health and the
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A Practical Guide for Health Care Providers

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Guide I

Addressing Common Barriers to the Adoption of EHRs

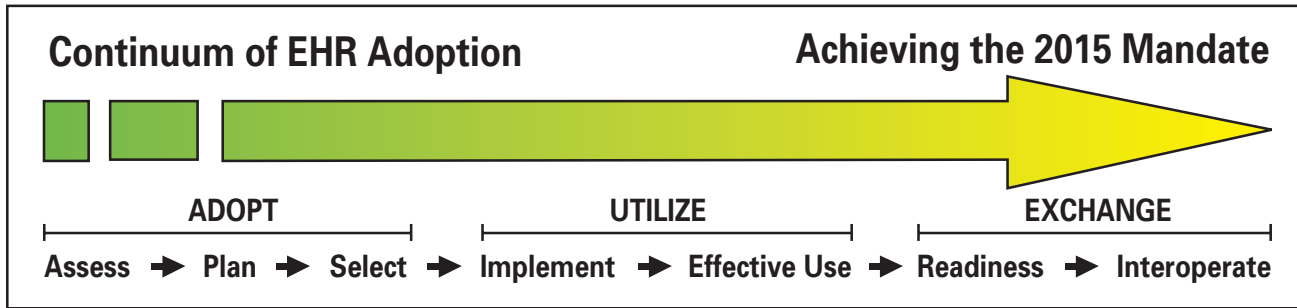
A Practical Guide for Health Care Providers

This guide provides practical guidance for health care providers on how to address some of the most commonly perceived barriers to electronic health record (EHR) implementation and use. It is designed to:

- Identify common barriers to adopting EHRs.
- Provide thoughtful considerations and solutions related to those barriers based on the experience of organizations that have been through the adoption process.
- List actions that providers and others can take to incrementally address barriers and make progress toward achieving the 2015 mandate.

The guide was developed to support providers in meeting the Minnesota mandate that all hospitals and providers have an interoperable EHR system by 2015 (see www.health.state.mn.us/e-health/).

It is organized by the seven steps of the adoption continuum shown below and also discussed in more depth in the statewide implementation plan, found at the Web address above.



You will note that there are more barriers described for steps at the beginning of the continuum than at the end. This is because there is more experience with Adoption than with Utilization or Exchange. As the industry moves more fully into Utilization and Exchange, new barriers will undoubtedly emerge for which collective solutions and best practices can be identified and shared.

Lessons Learned and Best Practices

The following are among the key lessons learned from organizations of all sizes that are implementing EHR systems. Each of them highlights the extent to which this process is, as commonly noted, “more about sociology than technology.”

- The process of transforming care to be “patient-centric and information-rich” is more about people, processes and policies than about technology.
- EHR adoption must be seen as a change management process across the organization.
- Providers and organizations must be willing to identify inefficient processes and to correct them in order for an EHR system to achieve the desired benefits.
- EHRs will magnify both good and bad processes: good processes will get better; bad ones will get worse.
- EHRs only provide the tools to support people in performing processes and policies that improve health and care. They are not a panacea, and are only as good as the people using them.

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A number of community e-Health collaboratives were funded in 2007 through the Minnesota e-Health grant program (www.health.state.mn.us/divs/orhpc/funding/index.html#ehr). Their advice to other projects is below.

Planning and Resources

- Thorough and systematic planning is critical; set modest, doable objectives.
- Using a trusted consultant, existing tools, tips or templates can save time and avoid costly mistakes.
- It takes time to do it right; it almost always takes longer than anticipated.
- Use a dedicated project management staff.
- Train staff from all sites at a single training.

Needs Assessment

- Comprehensive needs assessments are crucial for successful product selections; consultants can play a valuable role in this process.
- Information systems expectations are a function of both business and care delivery needs.
- Determine site readiness through an external IT infrastructure evaluation.
- Scheduling and billing system upgrades often need to occur before an EHR implementation.

Engaging Staff and Others

- Involve key stakeholders in the entire process and ensure that all have a thorough understanding of the project goals.
- Agree on the model to help manage competing priorities and differing motivations.
- Engage physicians early as their commitment to the EHR process is essential.
- Engage internal staff. Adequate preparation of those impacted directly is a critical success factor.

Let the EHR be a tool in guiding your practice, since these systems provide proven approaches to practicing and supporting quality medicine. Prepare to adapt your processes to take advantage of improvements in care made possible by the EHR system.

You are buying a powerful tool – take advantage of it!

Addressing Barriers to Getting Started

BACKGROUND

The best guarantee of successful EHR implementation is effective planning. This is done by:

- Thoroughly assessing your business (financial, administrative), clinical and quality improvement needs so it is clear what you need the technology to do to support you in your practice.
- Thoroughly planning every step, from ensuring executive and physician support to knowing how you will capture the years of information trapped in paper records.
- Selecting an EHR product that is certified nationally and will meet your business, clinical and quality improvement needs.



BARRIERS COMMONLY EXPRESSED AS ...

"It's too daunting to know where to begin."

"We know we have to make this move but are concerned about the prolonged period of transition, inefficiency and loss of productivity. We are reluctant to reduce the number of appointments available to our patients, and concerned about the reduced revenue."

"It's not proven to us that EHRs will really improve care."

"Planning is fluffy—an unnecessary expense."

"We don't know how to plan for something as transformative as this."

CONSIDERATIONS

- Selecting the right HIT tool such as an EHR and implementing it effectively takes time, often years, so you can't afford to delay getting started.
- Minnesota has a statutory mandate that requires all health care providers to have an interoperable EHR by 2015. This not only means that you must have an EHR in place but that you also have the agreements and capabilities to electronically and securely exchange health information with other providers.
- HIT is evolving rapidly. If you haven't looked at an EHR system or other HIT products in a while, chances are that today's solutions are much better at meeting provider needs.
- Remember that an effective implementation is less costly than an ineffective one. It will also accelerate your return on investment and effort. Effective implementation begins with effective planning. That's something you can begin today.

ACTIONS PROVIDERS CAN TAKE NOW

- Begin now to identify the business value (benefits minus costs) of migrating to an EHR. This is not a decision that can be done in the abstract—it requires advice from experienced peers or a consultant who can guide you through the financial, total cost of ownership, and non-financial pay-backs of an EHR.
- Engage physicians, nurses and other stakeholders from the *very beginning and throughout* the planning process. This is a critical success factor for effective change management.
- Hire a trusted consultant experienced in EHR implementation who can guide you through the process of assessing staff attitudes, staff competencies with IT, finances, and IT support. This assessment is necessary to undertake an initiative that, to be truly successful, will be transformational to your practice and work processes.
- Rely on your peers and your professional and/or trade associations to learn the lessons from other settings similar to yours. You have one chance to do it right—and the path to effective implementation has been made clearer through the work of others.
- Review an EHR roadmap such as from the DOQ-IT program (www.stratishealth.org/doq-it) to become familiar with the sequential early steps that are critical to success.
- ***Go slow – don't jump to software demos.*** It's like building a house based on a picture instead of a blueprint. Don't let software vendors define your clinical and business requirements. Without systematic and thorough assessment and planning, there is no way you can effectively remain in the driver's seat when working with an EHR vendor.
- Explore joining an existing community collaborative or forming your own, to jointly plan for EHR adoption and acquisition.

ACTIONS OTHERS CAN TAKE NOW

- Professional and trade associations must make every effort to use existing and new venues such as conferences, meetings, newsletters and web sites to exchange lessons learned and best practices on EHR and HIT adoption. Associations should consider creating an "HIT Corner" or track for all newsletters, continuation education meetings and conferences.
- Professional and trade associations should develop policy statements/ issue briefs on key aspects of EHR adoption, such as its role in improving quality, reducing overall costs and increasing patient safety. A core set of messages should flow from these statements that can be incorporated into articles, slides and other communications.
- MDH should work with others knowledgeable in EHR planning and implementation to establish a clearinghouse of information on planning needs and lessons learned. The information should both be based on real life experience and separate facts from myths.

- Look for opportunities to develop a mentorship program to connect those who have implemented EHRs with similarly sized organizations that are just beginning, such as that explored by Stratis Health in the past.
- Stratis Health, MDH and others must seek financial support for the DOQ-IT program so that these services continue to be available to health organizations that may not have the financial and planning resources for EHR adoption.

Resources Available (see also the summary of resources beginning on page G1-38)

- For a list of nationally certified EHR products, see the Certification Commission for Healthcare Information Technology (CCHIT) at: www.cchit.org. The EHR products are certified based on a demonstrated ability to meet criteria for functionality, interoperability and security.
- For a detailed planning and implementation roadmap, complete with dozens of worksheets and other planning tools, see the Stratis Health DOQ-IT (Doctor Office Quality – Information Technology) web site at: www.stratishealth.org. Find it under Health Care Professionals, then Health Information Technology. Stratis Health also has a comparable toolkit for small and critical access hospitals (the Health Information Technology Toolkit for Small and Critical Access Hospitals).
- For grants and no-interest loans available from the State of Minnesota, see www.health.state.mn.us/e-health, Funding and Other Resources.
- Both the American Academy of Pediatrics (AAP) and the American Academy of Family Physicians (AAFP) have very helpful, member-driven web sites to assist with EHR planning and implementation.
- The AAP’s Council on Clinical Information Technology’s (COCIT) web site offers peer reviews of EHR products. Other features require AAP membership.
- The AAFP’s Center for HIT (www.centerforhit.org/) provides very practical tutorials on the four steps of Preparation, Selection, Implementation and Maintenance. The Readiness Assessment (“What step am I in?”), physician product reviews and other features require AAFP member login.
- The AHRQ *Health Information Technology Evaluation Toolkit* provides step-by-step guidance for project teams who are developing evaluation plans for their health information technology projects. (www.healthit.ahrq.gov/)
- The American Health Information Management Association (www.ahima.org) has information on electronic Health Information Management (e-HIM).

Addressing Barriers Related to Start-Up or On-going Costs

BACKGROUND

Few investments are as substantial as implementing an interoperable EHR system. This is true regardless of the size of the health organization. It's not always as easy to see the return on investment for an EHR as for a new wing, reimbursable service or diagnostic equipment.

But both market forces and the 2015 legislative mandate for Minnesota providers require finding your way through the many issues around costs, benefits and overall value. Soon, delivering health care without an EHR will be as unthinkable as operating your business without systems for billing, payroll and scheduling.

BARRIERS COMMONLY EXPRESSED AS ...

"We do not have the capital resources to invest in such a large project."

"Our capital budget needs to go to other priorities, including physical plant and new diagnostic equipment. Health IT is simply not as high of a priority in our organization."

"It is not clear to us that there is adequate ROI for a practice of our size."

"We cannot make this investment until incentives/payments are in place to partially offset our start-up and long-term costs."

"We didn't calculate a total cost of ownership for an EHR system, so our board is reluctant to authorize more IT spending."

"We can't afford a full-featured EHR but want to get started on using HIT."

CONSIDERATIONS

If you have not started because of a lack of capital or not seeing a clear ROI, consider this:

- Value on Investment (VOI) is a more accurate means to assess what an EHR will mean for business, since the return is not always readily expressed in dollars. Value can be found in areas such as:

- Savings in staff time from, for example, fewer calls with pharmacies because now the scripts are legible and match the patient's formulary.
 - Reduced transcription costs as information is entered directly at the time of care or through voice dictation.
 - The marketing value of patients being able to set their own appointments online, communicate with their physician or nurse by e-mail, and even have access to their data through a Personal Health Record (PHR).
 - Physicians can get home earlier every evening as dictation and chart notations are done more efficiently.
 - Physicians on call can access medical records from home.
 - More accurate and timely billing, with fewer rejections from payers.
 - Record storage areas can be re-tasked to exam rooms or other revenue-generating space.
 - Decreased staff time needed for creating, filing, pulling and maintaining paper charts.
- Pay For Performance (P4P) will continue, and the easiest way to report on P4P measures—and to truly achieve higher quality and patient safety—is through effective use of EHRs through its Clinical Decision Support Systems (CDSS).
 - Future P4P payments will likely soon be tied to use of EHRs and CDSS. Start the planning process now so you are ready to capitalize on new payments and incentives.
 - Other quality reporting initiatives, such as Minnesota Community Measurement, will also continue. An EHR provides potential for improved gathering and reporting of more complete and accurate information.
 - Medicine has become too complex to be practiced from memory. Physicians need CDSS tools, especially in areas like disease management for patients with complex co-morbidities, multiple physicians, multiple treatment modalities and poly-pharmacy.
 - ROI/VOI is not always in the short term. Much like other capital investments, with an EHR system you must think strategically and in terms of five years and beyond. It is critical to plan and budget for upgrades over time.
 - Remember that effective planning increases the potential of positive ROI.
 - A bank could not operate or compete today without being online. The same is rapidly becoming true for health care.

- Like other technologies, including mobile phones and the Internet itself, the value of having an EHR goes up as more and more providers begin using them to exchange information.
- With most primary care providers in Minnesota either having or in the process of implementing an EHR system (62 percent in 2007, Stratis Health), it is rapidly becoming the expectation for providers, patients and payers:
 - Patients increasingly want the ability to electronically communicate with their physician and to have access to their basic health information.
 - Physicians and other clinicians are increasingly demanding to practice in a setting that has an EHR. This is particularly true for younger clinicians who have trained on EHRs.
 - Payers are increasingly focused on paying for quality. Some are even providing financial incentives for using EHRs because of their ability to improve measurable quality.
- Similarly, the power of EHRs is rapidly making them the standard of care in medical practice, particularly because of functions that help reduce medication and other errors.

ACTIONS PROVIDERS CAN TAKE NOW

- Check on the availability and your eligibility for the Minnesota e-Health grant and EHR loan programs, as well as other grants administered by MDH which can support EHR investments (www.health.state.mn.us/e-health).
- Do an ROI/VOI using proven tools such as from the DOQ-IT program (www.stratishealth.org/doq-it) or available from other consultants.
- When calculating a ROI/VOI, base it on Total Cost of Ownership (TCO) so that you understand at the outset what investments will be needed over time, as well as where cost-savings will likely accrue to pay for those investments.
- By carefully planning your activities and understanding where you can save money; you can ensure your implementation gets to those areas that have the greatest return, such as transcription and e-prescribing/medication management.

- If you cannot afford a full EHR system, as an interim step toward full EHR adoption, evaluate other types of HIT that are often critical components of a full-featured EHR, but are also available as stand-alone products, such as e-prescribing tools, dictation software, and lab ordering and results. These are all high value technologies that support improvements in quality and safety, while often reducing costs. Such a migration path enables you to phase in components based on their ROI or other value.
- Explore joining an existing community collaborative or forming your own, to jointly plan for EHR adoption and acquisition.

ACTIONS OTHERS CAN TAKE NOW

See actions steps on page G1-7 on *Addressing Barriers Related to Getting Started*.



Resources (see also the summary of resources beginning on page G1-38)

- Stratis Health has ROI, business case and financial assessment tools on its DOQ-IT (Doctor Office Quality – Information Technology) site (see www.stratishealth.org). Find it under Health Care Professionals, then Health Information Technology.
- See also the resources on page G1-8 *Addressing Barriers Related to Getting Started*.

Addressing Barriers Related to Clinical and Administrative Needs

BACKGROUND

It may be that after defining your business needs (both clinical and administrative) and conducting a review of EHR products, you learn none that are available, or perhaps that one meets your needs but is not certified nationally.

G1-13

BARRIERS COMMONLY EXPRESSED AS ...

“Today’s EHR products don’t meet our business requirements. The solutions are just not in place for our sector or specialty.”

“The EHR we want is not CCHIT-certified.”

“We need an integrated package across our hospital, clinics and long term care facilities. The only ones that are broad and flexible enough to meet all our needs are too expensive.”

CONSIDERATIONS

- EHR vendors are looking for broad markets with many potential customers. Such a broad market can only be created by organizations working together collaboratively to define the information system requirements—especially the unique information needs and requirements—for a particular provider setting.
- Certification criteria developed by CCHIT are expanding rapidly to areas like child health, cardiology, Emergency Department and long term care. You can provide feedback on the functional, interoperability and security features you believe are critical at: www.cchit.org.
- While a comprehensive EHR system is clearly ideal for a multi-facility integrated care delivery organization, finding applications that work for each of the major settings (inpatient, ambulatory, long term care) can be achieved through a “best of fit” approach that enables you to purchase components/applications from various vendors based on which products best fit your needs. That approach can yield more satisfactory and productive solutions for each of the settings, but increases the challenges (and usually costs) around interoperability.

- The Institute of Medicine identified eight core capabilities of an EHR system (www.iom.edu/?id=19374) or (www.nap.edu/catalog.php?record_id=10781). Define for yourself the needs of your setting in terms of these eight capabilities, then consider using them as a framework for evaluating EHR solutions or, at a minimum, to more comprehensively and accurately define your needs. The eight capabilities are:
 - Health information and data
 - Results management
 - Orders management
 - Decision support
 - Electronic communications and connectivity
 - Patient support
 - Administrative processes (e.g., scheduling)
 - Reporting (e.g., disease reporting, patient safety)

ACTIONS PROVIDERS CAN TAKE NOW

If a viable product is not available for your setting:

- Work with your trade and/or professional associations to collaboratively define the business requirements and unique information needs of your sector. This will provide both an objective basis for your organization to evaluate products and communicate your sector's needs to EHR/HIT vendors.
- Check with any national trade associations to see if they are aware of products used by members in other states.
- Work with national trade associations to push for standards and/or certification criteria within CCHIT or other body.
- At least start with automating the capture of information that is part of the national standards for a Continuity of Care Document (CCD). Focus on those standards initially so you are in a good position to be a valued trading partner when exchange begins to occur in your community.
- Ask a prospective vendor:
 - How do you participate in national EHR certification activities? Which of your products are certified now?
 - Can you produce the DOQ-IT measures or other standardized quality reports?

If your application was developed internally:

- Monitor the health data standards recommended for use in Minnesota and nationally (www.health.state.mn.us/ehealth), evaluate to what extent your current application(s) incorporates those standards of most relevance to your setting, and work with your vendor (or IT department if internally developed) to adopt those standards.

- Evaluate whether it's prudent to migrate to a different application, one that is certified nationally and so more likely to have a longer life span within your industry and more likely to be kept current. Include in the evaluation the comparative costs of upgrading an existing application versus acquiring and installing a new one, including the data conversion costs that are likely to occur in both scenarios.

ACTIONS OTHERS CAN TAKE NOW

- Trade and professional associations must be the catalyst that creates the venue for collaboratively defining functional and other EHR requirements for settings in which current EHR products do not meet needs.
- Software vendors must seek to better understand the unique business and informational needs of these settings, encouraging collaborative approaches to defining those across the industry.
- Academic institutions should continue to use EHRs as integral tools in their training programs to both develop competencies and drive demand.

Resources *(see also the summary of resources beginning on page G1-38)*

- Your trade association or other groups working on EHR or exchange requirements.
- For a case study of how state public health laboratories worked together to identify and define their common needs, see www.aphl.org/programs/informatics. For more information on the collaborative requirements definition approach, see www.phii.org/resources/doc/Taking_Care_of_Business.pdf.
- "Medical Home" initiatives are occurring nationally and in Minnesota to ensure "care that is accessible, family-centered, comprehensive, continuous, coordinated, compassionate, culturally-effective, and for which the primary care provider shares responsibility with the family." (American Academy of Pediatrics, American Academy of Family Practitioners, American College of Physicians)
- Useful medical home web sites:
 - American Academy of Pediatrics: (www.medicalhomeinfo.org)
 - Center for Medical Home Improvement: (www.medicalhomeimprovement.org)
 - American Board of Internal Medicine: (www.abimfoundation.org)

Addressing Barriers Related to Data Standards

BACKGROUND

A fundamental requirement for achieving the goal of electronic health information exchange (eHIE) is the universal adoption of data, messaging and other standards. Until information is captured, coded, documented, stored and exchanged in standardized ways, we will continue to require human interpretation and translation of information for which timely machine-to-machine exchange could greatly improve the quality and safety of practice.



BARRIERS COMMONLY EXPRESSED AS ...

"We are reluctant to implement an EHR until standards are finalized nationally and all products in the marketplace are interoperable. We don't want to "rip and replace" down the road."

CONSIDERATIONS

- Many standards are in place, often in areas of greatest need, such as lab results reporting and medication management. If you start now, no one else will be further ahead; but if you wait, you will be further behind.
- National progress in establishing standards is both accelerating and effectively engaging the provider and the vendor communities. Generally speaking, vendors are rapidly moving toward adopting standards and abandoning their proprietary approaches to capturing and reporting data.
- Know that vendors upgrade their products anywhere from quarterly to annually. Ask about the typical upgrade schedule from prospective vendors and whether upgrades are part of ongoing maintenance costs or a separate charge.
- Readiness assessment tools and templates already exist through the national eHealth Initiative program (www.ehealthinitiative.org) and other sources which address issues of standards and electronic exchange.

ACTIONS PROVIDERS CAN TAKE NOW

- Start with systematic assessment and planning (see above and www.stratishealth.org/doqit) to identify which areas of your practice would benefit most from data exchange. Chances are it's the same areas for which national standards are established and which EHR vendors have adopted or are rapidly adopting.
- Continue your assessment and planning process to identify vendors that fully incorporate the standards of interest to you.
- Make sure that your EHR system is CCHIT-certified so that it incorporates the latest standards adopted nationally.
- Become familiar with the HIT tools that exist today, such as those from the DOQ-IT toolkit.
- Work with others in your community/service area to coordinate and identify priorities for HIE based on population health or other needs. Greater value will accrue to all partners if this is done in a coordinated way across the community.
- Although upgrades can be expensive, vendors will often incorporate standards and new functionality as they are approved nationally. The increased utility may increase the ROI and often eases your workflow over time. Remember also that you don't have to purchase an upgrade simply because it's available. As with any software, you can wait for a larger upgrade to be released in the future. Note that keeping your EHR system upgraded is not a one-time occurrence; it is an evolutionary process that must be part of your business plan.
- As always, working with a trusted consultant can help make sure that the decisions and purchases you are making are aligned with national efforts around health data standards.

ACTIONS OTHERS CAN TAKE NOW

- The Minnesota Department of Health, collaborating with others through the Minnesota e-Health Initiative, must ensure that collaborative efforts continue in identifying appropriate standards based on national recommendations, including developing policies and implementation guides as needed to ensure uniform use of those standards across the state.
- Trade associations should periodically issue a Request For Information (RFI) to seek responses from EHR vendors on current functionality and use of standards. Such a systematic approach

would enable their members to monitor the maturing of EHR applications for their care delivery settings.

- Trade and/or professional associations for medical specialties should create ongoing or ad hoc workgroups to develop or identify standards for their specialty areas that will help advance the development of appropriate EHR products and functionality for those specialties.

Resources *(see also the summary of resources beginning on page G1-38)*

- The national Health Information Technology Standards Panel (HITSP) is tasked with setting data standards that will facilitate health information exchange. All of the HITSP requirements, design and standards selection documents—as well as the ability to comment on them—can be found at: www.hitsp.org/.
- Stratis Health has EHR selector tools on its DOQ-IT (Doctor Office Quality – Information Technology) site (see www.stratishealth.org). Find it under Health Care Professionals, then Health Information Technology.
- The Minnesota e-Health Initiative web site has an extensive section on health data standards, including primers on the need for and types of standards, currently establish standards and other resources (see www.health.state.mn.us/e-health/standards/index.html and www.health.state.mn.us/e-health/stndrdshome.html).

Addressing Barriers Related to Privacy and Security

BACKGROUND

Effectively addressing privacy and security issues—in statute, policies and EHR products—is crucial to both patient and provider acceptance of EHRs and electronic health information exchange.

G1-19

BARRIERS COMMONLY EXPRESSED AS ...

“We are reluctant to implement an EHR until privacy and security issues are more fully addressed.”

CONSIDERATIONS

- Minnesota has among the strongest privacy protections in the country. The statutes related to health records were updated in 2007 by the Minnesota Legislature to better reflect the requirements of electronic exchange. The Minnesota Health Records Act (Minnesota Statutes 2007, Section 144.291-298) provides clear requirements around patient consent and information disclosure that should be reassuring to providers hesitant to head down the road of eHIE. The national HIPAA requirements may be met by a vendor but make sure they can meet Minnesota’s stricter privacy requirements.
- EHRs and eHIE actually strengthen privacy protections since EHRs can control who accesses what information, and can track who accessed what information when.
- Security practices for within an organization are well established. Failures in security are most often failures to follow standard practice.
- Major activities have been underway to strengthen security safeguards and privacy policies. Many vendors have addressed this in great detail within their applications.
- Like any major undertaking, e-Health is about balancing needs. Patient privacy has to be protected but we also need to move forward in order to achieve greater patient safety and quality improvements.

- Remember that most breaches in confidentiality come from individual staff being careless in how they treat confidential information, whether in unmindful conversations within earshot of other patients or paper records being left out where they are accessible to unauthorized individuals. Continual training in security practices and developing a culture of privacy can go a long way in avoiding accidental disclosures.
- Just as we have all adjusted to electronic banking and online airline reservations, so will we adjust to electronic health records and health information exchange. The health care industry is the last major industry fully moved into the information age. We cannot continue to practice 21st-century medicine and stay stuck in 19th-century paperwork.
- The younger generations are much less concerned about privacy than the World War II or Boomer generations. They also have much higher expectations for electronic access to information.

ACTIONS PROVIDERS CAN TAKE NOW

- Become familiar with the privacy protections, including patient privacy protections and provider liability protections, found in the Minnesota Health Records Act (see www.health.state.mn.us/ehealth). At the same web site is a framework of 19 principles to guide security policies and practices related to eHIE.
- Talk to prospective vendors about their features to maintain a secure environment and safeguard patient privacy.
- Learn more about the security features of EHRs and other HIT. Security measures are continually improving, and provide types and levels of protection not available in the past or with paper records.
- National privacy and security standards are rapidly emerging that will provide greater legal protection for those who adhere to them. Make sure that your EHR is CCHIT-certified so that it incorporates the latest privacy standards adopted nationally.
- Make sure you are fully aware of the latest privacy and security considerations for your setting. If you are not sure, check with your trade or professional association or peers. Make sure your security infrastructure is adequate to implementing an EHR system.
- If you are concerned about the security of your patients' information or the robustness of your infrastructure, there are qualified security consultants that can guide you through a review of your current policies and security controls, which can include a complete vulnerability assessment, and can help identify how to best strengthen the security of your information.

ACTIONS OTHERS CAN TAKE NOW

- Professional and trade associations must make every effort to use existing and new venues such as conferences, meetings, newsletters and web sites to exchange lessons learned and best practices on EHR and HIT adoption. Associations should consider creating an “HIT Corner” or track for all newsletters, continuation education meetings and conferences.
- Health plans and health systems can use their newsletters and other patient information/education channels to inform members/citizens about the value of EHRs and offer reassurance on the measures taken to protect their privacy.

G1-21

Resources *(see also the summary of resources beginning on page G1-38)*

- The Minnesota e-Health Initiative web site contains extensive information on health data privacy in Minnesota, including a standard form for patient release of health information that can be downloaded. Click on the Privacy link at: (www.health.state.mn.us/ehealth).
- Ask your prospective/current vendor how completely their application adheres to and/or exceeds the privacy and security standards established by the national Certification Commission for Health Information Technology (CCHIT) (see www.cchit.org).
- Become familiar with the CCHIT standards in order to reassure yourself, your staff and your patients in the growing privacy and security standards being set nationally.
- The American Health Information Management Association (AHIMA) has a number of tools to strengthen your organization’s knowledge related to privacy and security. Look for AHIMA’s Body of Knowledge, Community of Practice and other training materials, which are all powerful educational resources

Addressing Barriers Related to Staff Skills

BACKGROUND

Staff skills and competency levels can also be a significant hurdle to smooth and effective implementation, which is why assessing staff skills and attitudes is so important early in the assessment and planning phases.

BARRIERS COMMONLY EXPRESSED AS ...

“I don’t want a computer getting between me and my patient.”

“The pressure on clerical and or nursing staff to make it work is simply beyond their typing skills and comfort level with computers.”

“Our medical records staff are reluctant to give up the paper records that have been their bread and butter. They worry about losing their jobs.”

“Our staff, many of them older staff who have been with us for many years, are reluctant and sometimes unwilling to learn new skills, to abandon old paper-based processes and to even give technology a try. Some of these folks are our management staff, which makes the transition even harder to implement.”

CONSIDERATIONS

- Your staff, from senior management on down, need to be prepared for the challenges of implementing an EHR. It will initially be disruptive and introduce lots of inefficiencies. But it can be transformative in workflow and how work gets done. It will touch all aspects of your practice or facility. It is most accurate to think of it as culture change and change management.
- While older staff may be challenged by shifting to greater use of technology, younger staff—from physicians to medical assistants—are expecting an EHR system to be in place. In fact, a growing number of physicians are making it a major consideration when joining a practice.
- Skilled consultants and trainers—and just as important, the champions within your organization—can make the transition to using an EHR less daunting. They know how to keep morale up by reiterating the eventual improvements in patient care and workflow efficiencies.
- Health information management/medical records staff in organizations that have gone to an EHR system are still required to review requests for record exchange, ensuring data quality and appropriate coding, and in making the transition from paper records to electronic information.



- Studies show that EHRs can actually improve the clinician-patient interactions.
- Clinician attitudes about the EHR in the exam room—whether positive or negative—will have the greatest impact on the clinician-patient interaction.

ACTIONS PROVIDERS CAN TAKE NOW

- If you have not yet assessed the typing skills and comfort levels of your staff, do so now. Regardless of where you are in the planning phase, you need to know this before beginning implementation, since an effective training plan is an essential ingredient for a successful implementation.
- As you experience staff vacancies, review the job responsibilities and requirements to see if you need to update the job descriptions to include appropriate skill sets related to information management and EHR use.
- Examine how the exam room and all other appropriate areas in your facility are set up to facilitate effective use of the EHR.
- If purchasing an EHR, make sure adequate training is part of the package.
- Identify early in the planning process how your organization can re-train and re-purpose staff to move into more productive roles for the future.
- Identify the person in your practice that could be re-tasked to work on clinical template and clinical decision support issue, such as a “techie nurse.”
- Target at least 80 percent of your current processes, identifying inefficiencies that can be streamlined using technology. Then redesign, test and implement the revised work processes while developing new ones as needed. Being clear about how you intend to use the EHR system will highlight the staff skills necessary to implement them effectively and efficiently.
- Let the EHR be a tool in guiding your practice, since these systems pass on proven approaches to practicing and supporting quality medicine. It also helps to standardize your practice across all clinicians, customizing only where appropriate and necessary.
- Make sure you are using staff at the top of their licensure. Understand what the system could provide in terms of improved processes (more efficiency, etc.) Don’t assume you know your processes well.
- Arrange to visit other organizations or practices similar in size to yours to learn how they adapted to using an EHR.

- Prepare to adapt your processes to take advantage of improvement in care made possible by the EHR. You are buying a powerful tool – take advantage of it!

ACTIONS OTHERS CAN TAKE NOW

- Minnesota Health Information Management Association (MHIMA) should use its annual meetings, newsletters and other venues to share experiences of Health Information Management professionals in making successful transitions from paper records to EHRs.
- Minnesota Healthcare Information and Management Systems Society (MN HIMSS) should use its annual meetings, newsletters and other venues to share best practices around supporting and training staff in making the transition to EHRs and other HIT.
- MN HIMSS can expand its efforts around facilitating peer learning and information sharing, especially for staff with new responsibilities around EHR planning and implementation. Making special efforts to attract and support non-HIM staff who must function in key informatics roles around EHR implementation would help to build a broader cadre of health informaticians in Minnesota.
- Trade and professional associations should also make it a priority to assess and help meet the technology competency needs of their members.
- All academic institutions with health professional programs (from MDs to MAs) must ensure that graduating students have a minimum level of computer (keyboarding) and HIT skills.



Resources *(see also the summary of resources beginning on page G1-38)*

- The AHIMA web site has a number of sample job descriptions, including Clinical Decision Support Specialist, HIM Director, HIM Compliance Specialist, and Privacy Officer, among many others (www.ahima.org/infocenter/job_descriptions/).
- Stratis Health DOQ-IT (Doctor Office Quality – Information Technology) Toolkit contains dozens of practical worksheets and other tools to assist in EHR assessment, planning, selection, implementation, effective use and maintenance at: (www.stratishealth.org) under Tools and Resources.
- There are a number of experienced EHR/HIT consultants in Minnesota with extensive experience in serving health care organizations of varying sizes.
- The *Connecting Communities* toolkit and other support services enable peer sharing of information on common issues (see www.ehealthinitiative.org/). (Note: Access to eHI's resources requires a no-cost sign-in account.)

Addressing Barriers Related to Health IT Support Issues

BACKGROUND

Attracting and retaining health IT workers is an acute challenge nationwide, especially in rural areas where it is harder to offer competitive salaries. Many predict a shortage of health IT workers that will exceed the impact of the nursing shortages of the last two decades.

G1-25

BARRIERS COMMONLY EXPRESSED AS ...

“We don’t have strong project management skills to successfully direct such a complex project.”

“We don’t have critical IT technical skills to support implementation of an EHR.”

“We do not have access to IT staff skilled in supporting EHR implementations.”

“Finding and keeping skilled IT staff in the rural areas is a real challenge.”

CONSIDERATIONS

- In the same way that group purchasing cooperatives provided important clout and cost-savings, cooperatives around EHR support may also be an appropriate model.
- Using an Application Service Provider (ASP) to host your EHR is a very reasonable and potentially cost-effective model to explore. In this arrangement, both your EHR application and your patient data are hosted off-site on a secure server maintained by the vendor. They do the back-ups, keep the server up to date, fix problems and install upgrades.
 - This has the added advantage of being more secure in case of a natural disaster in your area, since vendors generally have redundant back-up schemes for both the application and the patient database.

ACTIONS PROVIDERS CAN TAKE NOW

- Explore joining or forming cooperatives around HIT/IT support. This could be among independent practices or with a regional hospital. Several organizations working together can offer a more competitive benefits package than one alone.
- Explore the tradeoffs of using an Application Service Provider (ASP) to host your EHR. Be sure to include all the direct cost-savings and indirect “hassle-saving” factors from not having to maintain the equipment and software yourself.
- Identify current staff who have an interest and promising skills in health IT and informatics.

ACTIONS OTHERS CAN TAKE NOW

- MN HIMSS can expand its efforts around facilitating peer learning and information sharing, especially for staff with new responsibilities around EHR planning and implementation. Making special efforts to attract and support non-HIM staff who must function in key informatics roles around EHR implementation would help to build a broader cadre of health informaticians in Minnesota.

Resources *(see also the summary of resources beginning on page G1-38)*

- A growing number of EHR and other HIT products are available as Software as a Service or SaaS (the preferred term for Application Service Provider or ASP). See (en.wikipedia.org/wiki/Software_as_a_Service) for background information on SaaS. Performing a search on “SaaS health” or “SaaS EHR” returns numerous articles and news stories to provide real life applications of this approach in health care.
- The AHIMA web site has a number of sample job descriptions, including Clinical Decision Support Specialist, HIM Director, HIM Compliance Specialist, and Privacy Officer, among many others (www.ahima.org/infocenter/job_descriptions/).
- The Healthcare Leadership Alliance, in conjunction with HIMSS and other national associations, has developed a Competency Director for health care leaders. Domain 5 relates to competencies needed in information management (www.healthcareleadershipalliance.org/).
- The Minnesota Nursing Informatics Group (MINING) includes a page for posting informatics positions (www.informaticsnurse.com).
- A number of community collaboratives exist in Minnesota around e-Health and HIT. See the directory of e-Health projects in Minnesota at: (www.health.state.mn.us/e-health/profiles.pdf).

UTILIZE

Addressing Barriers Related to Implementation

BACKGROUND

“Going live” with an EHR may seem like the culmination of your project, but in many respects it is just the beginning. The implementation phase involves refining how the EHR fits into and improves clinical workflow and business processes. This can be the period of “culture shock” for many staff, and ensuring adequate support from both the IT and clinical perspectives is critical. Be aware that staff resistance may not come as much at the beginning, but several months into implementation when the novelty has worn off ... and just when the support team is perhaps no longer as available!

BARRIERS COMMONLY EXPRESSED AS ...

“The computer in the exam room gets in the way of clinician-patient interactions. It makes the encounter less personal.”

“It’s too cumbersome to find the essential patient information that used to be right on the face sheet in our paper charts. EHRs are not as efficient as proponents claim.”

“We have an EHR system but half of our team is still relying on paper. We just can’t seem to make the transition as an organization”

“We’ve adjusted to using an EHR but so far it is failing to deliver on the promises.”

“We’ve installed our EHR but only a few staff actually use it.”

CONSIDERATIONS

- Preventing serious problems in the implementation phase is precisely why so much emphasis is placed on thorough up-front assessment and planning.
- Involving staff in the planning phase to identify how to best incorporate the EHR into the workflow vastly improves the likelihood of a smooth implementation. If your staff doesn’t feel ready for the change, your organization isn’t ready.
- Experience has shown that an EHR can actually facilitate provider-patient communication and patient education.
- While you can expect inefficiencies during the period of adjustment, depending in large part on how effectively you planned

the implementation, it may take three to nine months (depending upon the size of your organization, how effective your preparations were, and the level of IT support) to see the time savings, so don't expect to realize savings right away.

- The complexity of EHR is such that it can take several months (again depending upon many factors, including the effectiveness of the EHR training and the readiness of the staff) to learn how to really use the system fully, so include in your plan a second wave of training to focus on effective use.
- An important lesson from others is that you must make the shift to the EHR across the entire clinic/facility. Allowing only the “computer geeks” or younger staff to start will only stretch out the period of pain. This pain will come not only from continued resistance but from having to maintain both paper and electronic systems. Focus sufficient time and other resources on staff readiness so you can move everyone at once.
- Most EHRs today enable the user to customize the “face sheet”—the opening screen—to reflect the priority information needs of their practice.
- Minnesota Community Measurement is adding EHR implementation as a reportable indicator. Patients, especially younger patients, will increasingly consider EHRs, personal health records, online appointments and e-mail with their clinicians when choosing a clinic.
- Not all staff are likely to be equally ready. But uneven use of an EHR system across your organization introduces workflow issues, undermines your efforts to redesign processes to be more efficient, introduces risks and undermines the benefits of an expensive but powerful tool.

ACTIONS PROVIDERS CAN TAKE NOW

- Review an EHR roadmap such as from the DOQ-IT program (www.stratishealth.org/ (see Appendix A) to make sure you have adequately prepared for implementation, including assessing staff attitudes, staff competencies with technology, finances and IT support. *This is not something the EHR vendor can tell you.* Summarize what should be done in the first month, at three months, then six months. Make sure that you create a planning structure to guide the process.
- Seek out information from your peers and your professional and/or trade associations to learn the lessons from other settings similar to yours. You have one chance to do it right—and the path to effective implementation has been made clearer through the work of others.
- Begin to create a five to seven year IT budget to address needed IT implementations and ongoing support. The EHR/HIT environment needs ongoing support just like your physical plant does. The board and/or senior leadership must see this as a necessary cost of doing business in the 21st century.

- If it's not possible to roll out an EHR system across your entire organization, consider starting with a department or unit as a pilot. Whether organization-wide or as a pilot, there are tradeoffs in terms of implementation. Only you can decide which is best, based on factors such as level of staff readiness and/or acceptance, IT support, size of organization, etc.
- Include in your EHR vendor contract a provision for knowledge transfer so that in-house staff have the knowledge and skills to support optimal utilization of the technology.
- Disseminating best practices for effective use of an EHR requires that you have "in-house experts" or "super users" to provide practical, real-time peer support to other staff.

ACTIONS OTHERS CAN TAKE NOW

- Professional and trade associations must make a major effort to use existing and new venues such as conferences, meetings, newsletters and web sites to exchange lessons learned and best practices on EHR and HIT implementation.
- MDH must work with others knowledgeable in EHR planning and implementation to establish a clearinghouse of information on implementation best practices.
- Stratis Health should continue to explore its mentorship program to connect those who have implemented EHR systems with similarly sized organizations that are preparing to implement.
- Stratis Health, MDH and others must seek ongoing and adequate financial support for the DOQ-IT program, so that those services continue to be available to health organizations that may not have the financial and planning resources for EHR adoption.
- All organizations with an interest in surveying providers on EHR adoption and functionality should collaborate in developing standardized ways to assess and report adoption. ("Ask providers once, use many times.") MDH should convene such organizations to establish common definitions ("EHR," "adoption," etc.), and a common assessment instrument where appropriate.
- MDH should ensure that an annual assessment of EHR adoption, effective use and interoperability is conducted annually for most provider settings. Trade associations should be engaged to ensure high response rates, and the results widely shared to help meet the assessment needs of the participating organizations.

Resources *(see also the summary of resources beginning on page G1-38)*

- Major EHR vendors can often provide accurate resource estimates for both IT implementation and ongoing IT support.

Addressing Barriers Related to Effective Use

BACKGROUND

The transformative power of an EHR comes only with effective use. It is at this step that an EHR becomes more than just an electronic version of the paper chart. It is here that it proves its value and delivers much of its return on investment. Identifying opportunities for effective use that can save time or money, or improve quality and safety of care, can be potent selling points as you prepare staff for training and implementation. Such opportunities for effective use include: improved measurable performance in a P4P environment, improved revenue from more accurate billing and fewer claims rejections, and attracting and retaining staff.

Effective Use is not so much a phase in the adoption continuum as an ongoing commitment to continuously seeking more and better ways to use EHRs and your clinical data to improve the health and care of your patients.

BARRIERS COMMONLY EXPRESSED AS ...

“The IT environment has become so complex—multiple vendors and systems, interfaces, varying age of applications, and mixture of hardware—that our whole focus is just on keeping it all running. Going to the next step in using the EHR more effectively to improve quality and safety is simply beyond our resources at this time.”

“Our vendor’s EHR application is a proprietary, closed system, and does not allow for easy/cost effective integration with other vendor products. This limits our ability to expand our EHR’s capabilities and interoperability.”

“I both trained on and am accustomed to finding clinical guidelines in books. Accessing electronic versions of the guidelines through the EHR is time-consuming enough for me that I perhaps do not check guidelines as much as I used to or want to.”

“The alerts and reminders are too many to realistically pay attention to, so we tend to either ignore them or turn them off.”

“We have an EHR but have to optimize our use of it to show measurable improvements in care or even to save money.”

“We’ve adjusted to using an EHR but it has so far failed to deliver on the promises.”

CONSIDERATIONS

- If you use the EHR to only replicate your old paper processes, you will be missing much of the real value. Effective use of an EHR is necessarily a transformative process that potentially touches and improves every aspect of your operation.
- Increasing effective use does not necessarily mean an increase in required IT resources. Many improvements stem from clinicians and other staff understanding and acting on how the EHR can save time and money, while also improving care.
- There is only so much a user can learn at the beginning. Continue to explore, find new features, and share them across staff to optimize use.
- Once you are using an EHR system effectively, you can really increase the ROI by optimizing use; i.e., wringing the most out of your investment which includes being able to generate reports on patient groups/populations (e.g., LHD levels of all patients over age 50 for whom <name of drug> has been prescribed).
- A fundamental value of automation is how much easier it is to get information out of an electronic system than from paper charts. The better EHRs provide ample ability to generate standard and ad hoc reports on individual patients (HbA1c levels over time; who received a Tdap vaccine between January 1 and March 1), patients assigned to a provider (which patients need their asthma plans updated), and trends in patient population within the clinic (hypertensives with controlled blood pressure before and after instituting a new treatment protocol). Acting on such reports can lead to:
 - Care givers being more effective in providing quality care.
 - Care processes being more effective, especially in areas such as disease management.
 - Improved health in the community.

ACTIONS PROVIDERS CAN TAKE NOW

- Make sure you have a physician and/or nurse champion who can spearhead efforts to discover new ways of using technology to improve care delivery.
- Make sure that the champions and innovators in your organization have a systematic means to relay their insights and ideas so that other staff can try them out and perhaps incorporate them into their everyday practice.
- Clinical teams will need to prioritize which alerts and reminders are most important to your practice, based on P4P requirements, internal quality improvement projects, national recommendations or other purposes.

- Make sure that your EHR system is CCHIT-certified or standards-based so that effective use includes the ability to exchange health information with other providers.
- Customize the EHR “face sheet” so that the data your physicians want and need is readily available.
- Develop ongoing IT support budgets/resource requirements for the EHR environment, obtaining board/senior leadership buy-in.

ACTIONS OTHERS CAN TAKE NOW

- Professional and trade associations must use existing and new venues such as conferences, meetings, newsletters and web sites to exchange lessons learned and best practices on effective use of EHRs and related HIT.
- MDH must work with others to establish a clearinghouse of information on best practices related to effective use.
- Stratis Health should continue to disseminate information on effective use as it relates to quality improvement.



Resources *(see also the summary of resources beginning on page G1-38)*

- Major EHR vendors/your selected vendor can provide the level of ongoing IT support resources needed to support the EHR production environment.

Addressing Barriers Related to Readiness for Exchange

BACKGROUND

Readiness for interoperability—the ability to exchange information electronically such that the information is meaningful and consistently interpreted—is not only about your technology, but also your internal organizational policies and your external agreements with trading partners. In addition, semantic interoperability (the ability of machines to receive and accurately assign meaning to incoming data) requires a sufficient level of standardization across the industry. Such standards must be adopted not only by EHR vendors but also by those supporting laboratories, pharmacies, radiology centers and other ancillary services.

BARRIERS COMMONLY EXPRESSED AS ...

“Content and messaging standards are simply not adopted universally enough by EHR/HIT vendors to say we are ready for electronic health information exchange.”

“The implementation guides and other supporting technical documents are not sufficiently available to ensure accurate exchange between disparate systems. Without those documents, we will still be writing custom interfaces between systems into the future.”

“We are reluctant to engage in eHIE until we solve issues around who owns the record.”

CONSIDERATIONS

- Expect vendors to more rapidly incorporate standards as the Certification Commission for Health Information Technology (CCHIT) and the Health Information Technology Standards Panel (HITSP) to accelerate their activities. Vendors are actively engaged in both, as well as other national standards development activities.
- Standards are rapidly emerging in areas of greatest interest and value for providers, such as e-prescribing, medication history, lab results reporting and immunizations. Standards for administrative data are more advanced.
- The EHR vendor community may not have products for your setting, but you can focus on interoperability in priority areas/use cases such as medication histories, immunizations, referrals and lab results.

- The entire health care industry is committing to interoperability. You simply can't build something that doesn't take that reality into account.
- Full machine-to-machine interoperability is still in the formative stages, and will likely take years to achieve at the level we aspire to. In the meantime, pay attention to those transactions that make sense for your setting and your "trading partners."
 - Don't approach EHR implementation from only the point of optimizing your business, but also how you will respond and contribute to exchange in your community. Think of it as the highway system: Putting a road in to your front door is of limited use if it does not connect to other roads.
 - Think both vertically (across the continuum of care) and horizontally (with other settings like yours).
- Vendor supplied proprietary interfaces may actually restrict exchanges and is contrary to the direction Minnesota is going. There is a fundamental business responsibility today to understand the bigger picture. It's about improved patient care.
 - The situation today is much like it was when the HIPAA went into effect. It was the provider community that then drove solutions to meeting the HIPAA transaction requirements. We need to do the same now for clinical data. The solutions are not likely to come from vendors without first getting clear direction from the health care community.

ACTIONS PROVIDERS CAN TAKE NOW

- Purchasing only CCHIT-certified EHR products—and keeping them up to date with new releases—increases the chances of your system being standards-based and ready to exchange.
- Ask your vendor to explain how the coding, terminology and messaging standards used in your EHR product compare to what is approved and published by HITSP and CCHIT. Push them to make sure what they call standards are not just their proprietary "standards" but are in fact those officially created by national Standards Development Organizations (SDOs) and endorsed by HITSP and/or are required by CCHIT.
- Monitor or participate in efforts within your professional organizations or other initiatives to advance standards adoption or to develop implementation guides (detailed documents that specify requirements for those areas within a standard that allow for flexibility) for how information will be exchanged in Minnesota.
- Focus on exchange priorities for Minnesota (medication histories).
- Identify and document your organization's current/planned external data exchange requirements; that is, what data is externally exchanged, with whom, and how it is being exchanged. This represents the starting point where the EHR system may be able to replace current inefficient and insecure exchange methods.

ACTIONS OTHERS CAN TAKE NOW

- Regional and statewide Health Information Exchange organizations should take the lead in creating implementation guides, beginning with high value exchange opportunities such as medication history, and lab ordering and results reporting.
- MDH must continue to work with others to identify and endorse standards for interoperability that address priority areas for exchange, assuring that knowledgeable individuals are engaged in developing implementation guides and other supporting documentation.

G1-35

Resources *(see also the summary of resources beginning on page G1-38)*

- The national Health Information Technology Standards Panel (HITSP) is tasked with setting data standards that will facilitate health information exchange. All of the HITSP requirements, design and standards selection documents—as well as the ability to comment on them at: (www.hitsp.org/).
- For a list of nationally certified EHR products, see the Certification Commission for Health information Technology (CCHIT) at: (www.cchit.org). The EHR products are certified based on a demonstrated ability to meet criteria for functionality, interoperability and security.
- Stratis Health has EHR selector tools on its DOQ-IT (Doctor Office Quality – Information Technology) site. See (www.stratishealth.org). Find it under Health Care Professionals, then Health Information Technology.
- The Minnesota e-Health Initiative has an extensive section on health data standards on its web site, including primers on the need for and types of standards, currently established standards and other resources.
See (www.health.state.mn.us/e-health/standards/index.html) and (www.health.state.mn.us/e-health/stndrdshome.html).

Addressing Barriers Related to Interoperability

BACKGROUND

Secure electronic exchange of health information that can occur machine-to-machine with no or minimal human intervention is the 'holy grail' of e-health. Interoperability is the solution to many of the problems currently seen with ensuring continuity of care, the lack of complete medication and medical histories when needed at the point of care, and the absence of timely, complete and accurate information in emergencies. The challenges to achieving true interoperability are formidable, requiring the adoption and adherence to vocabularies, messaging and other standards by a range of health information technologies and across disparate organizations. What makes this so much more daunting compared to similar efforts as in the banking and other industries—and even compared to exchanging electronic health claims data—is the complexity of clinical information.



BARRIERS COMMONLY EXPRESSED AS ...

"The implementation guides and other supporting technical documents are not sufficiently available to ensure accurate exchange between disparate systems. Without those documents, we will still be writing custom interfaces between systems into the future."

"We are reluctant to engage in eHIE until we solve issues around who owns the record."

CONSIDERATIONS

- The policies, business cases, and governance and other structures are already being created in Minnesota for the exchange of medication, lab results and other clinical information. Electronic submission of claims data is very advanced in Minnesota. These provide a solid foundation for advancing interoperability across the state.

ACTIONS PROVIDERS CAN TAKE NOW

- Purchasing only CCHIT-certified EHR products—and keeping them up to date with new releases—increases the chances of your system being standards-based and ready to exchange.

- If you are not part of a regional or statewide health information exchange organization (HIE), explore where the greatest clinical value in exchanging information for you would lie, then begin the conversations with either an HIE or your likely trading partners within your service area. Become proactive now so that you are not just responding to a changed environment down the road.

ACTIONS OTHERS CAN TAKE NOW

- The largest hospital in a region without an HIE should serve as the convener of regional exchange discussions, being willing to provide up-front funds and other support to create an exchange infrastructure (whether virtual or physical) that can be sustained over time through user/membership fees.

Resources *(see also the summary of resources beginning on page G1-38)*

- The HIE Value and Sustainability Toolkit can be downloaded from the national eHealth Initiative (eHI). The Connecting Communities toolkit and other support services are also available from eHI, both at: (www.ehealthinitiative.org/). (Note: Access to eHI's resources requires a no-cost sign-in account.)
- The national Health Information Technology Standards Panel (HITSP) is tasked with setting data standards that will facilitate health information exchange. All of the HITSP requirements, design and standards selection documents—as well as the ability to comment on them—can be found at www.hitsp.org/.
- For a list of nationally certified EHR products, see the Certification Commission for Health Information Technology (CCHIT) at (www.cchit.org). The EHR products are certified based on a demonstrated ability to meet criteria for functionality, interoperability and security.
- The Minnesota e-Health Initiative has an extensive section on health data standards on its web site, including primers on the need for and types of standards, currently establish standards and other resources. See (www.health.state.mn.us/e-health/standards/index.html) and (www.health.state.mn.us/e-health/stndrdshome.html).
- AHIMA's Foundation of Research and Education has released results from a national study on state-level HIE initiatives. It offers research findings, case studies, and workbook materials to assist existing and emerging state-level HIE initiatives. The report is the result of a six-month project conducted under contract to the Department of Health and Human Services, Office of the National Coordinator for Health Information Technology (www.ahima.org/hie/).

Web-based and Other Resources for EHR Adoption and Effective Use

Electronic Health Records (EHR) ADOPTION AND IMPLEMENTATION

Stratis Health DOQ-IT (Doctor Office Quality – Information Technology) Quality Resource Kit

- The DOQ-IT resource kit contains dozens of practical worksheets and other tools to assist in EHR assessment, planning, selection, implementation, effective use and maintenance (www.stratishealth.org) under Tools and Resources.

American Academy of Family Physicians (AAFP)

- Information on a variety of practice management issues, including EHRs, can be found at: www.aafp.org/online/en/home/practicemgt.html.
- The AAFP's Center for Health Information Technology (CHiT) is at: www.centerforhit.org/. CHiT is the focal point of the AAFP's technical expertise, advocacy, research, and member services associated with medical office automation and computerization.

American Academy of Pediatrics (AAP)

- Most resources related to EHRs and HIT require an AAP membership (www.aap.org).

American College of Physicians

- The ACP web site offers a step-by-step guide to finding, selecting and implementing a successful Electronic Health Record system, as well as a service (for ACP members only) to help select the right EHR product for a practice. (https://www.acponline.org/running_practice/technology/ehr/)

Electronic Prescribing Readiness Assessment Project

- Five national physician organizations launched a new program to help providers assess their readiness for sending electronic prescriptions (www.getrxconnected.com/).

Certification Commission for Healthcare Information Technology (CCHIT)

- The national body that certifies EHR based on objective, verifiable criteria for functionality and interoperability (www.cchit.org).
- List of CCHIT-certified EHR products:
 - Ambulatory EHR 2007: www.cchit.org/choose/ambulatory/2007/index.asp
 - EHR 2007: (www.cchit.org/choose/inpatient/2007/index.asp)
 - Ambulatory EHR 2006: www.cchit.org/choose/ambulatory/2006/index.asp



2007 Physician's Guide to Certification for Ambulatory Electronic Health Records

- A guide to help physicians and practice managers understand the benefits when EHR products have been certified by CCHIT (www.cchit.org/files/CCHITPhysiciansGuide2007.pdf).

EHR Decisions

- Electronic Health Record (EHR) Information & News (www.ehrdecisions.com/)

Electronic Health Records (EHR) EFFECTIVE USE

American Health Information Management Association (AHIMA)

- The AHIMA web site includes an extensive section on "e-HIM" that includes practice standards for transitioning from paper to electronic medical records (www.ahima.org/e-him).

Health Information Management System Society

- Provides numerous resources on topics related to EHR, integration, interoperability and other issues. Many resources require a HIMSS membership (www.himss.org/ASP/topicsHome.asp).

AHRQ National Resource Center for HIT

- Information on activities and projects around the country, toolkits, knowledge library, FAQs and funding opportunities (www.healthit.ahrq.gov).

EHR Decisions

- Electronic Health Record (EHR) Information & News (www.ehrdecisions.com/).

Case studies of CCHIT Certified EHRs in practice

- Stories on the impact of EHR use told in human and business terms (www.cchit.org/about/casestudies/index.asp).

Electronic Health Records (EHR) INTEROPERABILITY AND HEALTH INFORMATION EXCHANGE

eHealth Initiative (eHI)

The eHealth Initiative and the Foundation for eHealth Initiative are independent, non-profit affiliated organizations whose missions are to drive improvement in the quality, safety, and efficiency of health care through information and information technology (www.ehealthinitiative.org).

Resources (many require no-cost sign-in account):

- *Connecting Communities* toolkit on health information exchange with modules, tools and templates on:
 - Getting Organized
 - Communications and Outreach
 - Value Creation and Financing
 - Practice Transformation
 - Policies for Information Sharing
 - Technology
 - Public Policy and Advocacy
- The national eHealth Initiative's *Value and Sustainability Model* provides a practical guidance for communities in building viable business plans and achieving sustainability in health information exchange (www.ehealthinitiative.org).
- *Connecting Communities* coalition membership; sign up for free e-newsletters and learn from other exchange coalitions.
- The eHealth Initiative *Blueprint: Building Consensus for Common Action* represents multi-stakeholder consensus on a shared vision and a set of principles, strategies and actions for improving health and health care through information and information technology (IT) (www.ehealthinitiative.org/blueprint/).
- Summaries of Congressional and state policy actions.



STANDARDS

Health Information Technology Standards Panel (HITSP)

The mission of the Healthcare Information Technology Standards Panel is to serve as a cooperative partnership between the public and private sectors for the purpose of achieving a widely accepted and useful set of standards specifically to enable and support widespread interoperability among health care software applications, as they will interact in a local, regional and national health information network for the United States (www.hitsp.org/).

Resources from HITSP:

- Interoperability Specifications
- Security and Privacy Documents
- Requirements, Design and Standards Selection

Certification Commission for Healthcare Information Technology (CCHIT)

- The national body that certifies EHR based on objective, verifiable criteria for functionality and interoperability (www.cchit.org).
- List of CCHIT-certified EHR products:
 - Ambulatory EHR 2007:
(www.cchit.org/choose/ambulatory/2007/index.asp)
 - EHR 2007: (www.cchit.org/choose/inpatient/2007/index.asp)
 - Ambulatory EHR 2006:
(www.cchit.org/choose/ambulatory/2006/index.asp)

Minnesota e-Health Initiative Web Page on Standards

Provides information on both the Minnesota mandates and recommendations around standards, as well as background information on health data standards generally, including EHR certification (www.health.state.mn.us/e-health/standards/index.html).

Health Information Management Systems Society (HIMSS) Tutorial: Standards 101

(www.himss.org/content/files/standards101/Standards_101.pdf)

HL7 organization, tutorial on HL7

(www.hl7.org/library/committees/education/Intro%20To%20HL7.zip)

