



Office Practice Adoption of Hospital EHRs: A Community Outreach Guide for Providers and Practices





**Office Practice Adoption of Hospital EHRs:
A Community Outreach Guide for Providers and Practices
June 30, 2013**

Table of Contents

Introduction.....4

How Can Hospitals Benefit from Extending Their EHRs to Community Practices?.....5

 Real-time Access to the Patient’s Ambulatory Record.....5

 Building a Community-wide Shared Record.....5

 Streamlining Processes and Promoting Hospital Quality, Safety and Efficiency Goals.....5

How Can Office Practices Benefit By Adopting a Hospital’s Ambulatory EHR?6

 Real-time Access to the Patient’s Hospital and Emergency Department Records6

 Building a Community-wide Shared Record.....6

 Streamlining Processes and Promoting Ambulatory Quality, Safety and Efficiency Goals7

 Benefitting from the Hospital’s Experience, Support Systems and Financial Subsidies7

How Can Hospitals Meet The Expectations of Community Physicians?8

 Hosting the EHR.....8

 Implementation Best Practices8

 A More Affordable Option.....8

 Training and Support.....8

What are the Qualities of a Good EHR Partner?9

 The Hospital as a Good EHR Partner9

 The Office Practice as a Good EHR Partner: Readiness and Goodness of Fit..... 10

What are the Risks and Consequences of Not Adopting the Hospital’s Ambulatory EHR? 12

How Does the Hospital’s EHR Design Philosophy Affect Suitability for Use in Community Practices? 12

How Should Training and Proficiency be Delivered and Assessed?	13
What Are the Major Steps in Moving Forward with Practice Adoption of the Hospital’s EHR System?	16
Define the Basic Products and Services.....	16
Define the Shared Data	17
Pricing.....	17
Marketing	19
Contracting	19
Staffing Plan.....	22
Network Infrastructure.....	23
Hardware Assessment	24
Meaningful Use	24
EHR Project Management and Implementation Timeline	24
Additional Resources	25
Contributors	26

Introduction

The cost and complexity of adopting, implementing, upgrading and meaningfully using certified electronic health record technology (CEHRT) can be daunting for ambulatory providers in community practices. Achieving interoperability with external systems such as laboratories, pharmacies, and area hospitals that use different clinical and administrative systems presents another set of technical and logistical barriers to quality of care, patient safety and efficiency.

Some office practices do not have sufficient information technology (IT) infrastructure, resources, expertise and experience to do this efficiently and well. As a result, they may seek help (directly or with the assistance of an independent third-party consultant) from a trusted hospital, health system or practice network partner with a track record of successful electronic health record (EHR) implementation that is committed to assisting its community practitioners to do likewise.

Increasingly, hospitals and larger healthcare systems that have successfully implemented EHR systems are offering their ambulatory EHRs to independent community physicians. Community practices can benefit from this same stable, supported system using a shared chart model, while keeping business information private to their own practices. This has significant potential to increase community EHR adoption and expand health information connectivity and exchange.

Community-based practice adoption of hospital EHRs may:

- Reduce interoperability issues
- Promote improvements in acute and longitudinal care coordination
- Increase proactive chronic disease management
- Support clinical integration
- Reduce avoidable medical costs
- Improve clinical outcomes
- Improve patient outcomes
- Provide better value to support shared savings

These are all key components of healthcare payment reform initiatives in the U.S. and abroad.

This guide will help community-based ambulatory health professionals and practice leaders explore the potential benefits, limitations and considerations of engaging in a hospital's¹ community outreach EHR program. It will also help hospitals interested in extending their ambulatory EHR systems to physicians in their communities.

¹ The term '*hospital*' will be used hereafter to represent individual hospitals, multi-hospital systems or other health systems with an enterprise ambulatory EHR that is potentially suitable for independent community practices.

How Can Hospitals Benefit from Extending Their EHRs to Community Practices?

Real-time Access to the Patient's Ambulatory Record

Hospitals and patients benefit when a larger portion of each patient's clinical information is available to all authorized health professionals involved in the patient's hospital care (e.g., care delivered in non-hospital settings).

For example, Emergency Department and hospital providers making diagnostic and treatment decisions for patients with complicated medical or surgical histories benefit greatly from real-time access to the patient's ambulatory record, particularly the problems, medications, allergies, advance directives and results that could affect in-hospital tests and treatments.

Likewise, office-based providers benefit when they have real-time, direct and integrated access to information about events and results from the inpatient, hospital outpatient department and emergency department settings. All parties benefit from and the relationships between them are enhanced by the free flow of information that promotes care coordination and decreases unnecessary hospital readmissions.

Building a Community-wide Shared Record

While advances in health IT interoperability and electronic health information exchange (HIE) hold promise for improving access to and sharing of patient data, their full potential remains at least several years away. Hospitals with an enterprise-wide EHR system that includes a robust ambulatory module suitable for community outreach deployment are in an excellent position to reduce current problems with data access and information sharing.

As a hospital adds ambulatory practices to its community EHR outreach program, it creates and expands a community-wide shared record. Information in this record can be shared more easily, without the common interoperability and HIE barriers that exist among disparate systems from different vendors for distinct healthcare entities.

Streamlining Processes and Promoting Hospital Quality, Safety and Efficiency Goals

Extending the hospital's EHR to community practices can also streamline other processes of care, such as communications, referrals and other transitions of care. The extension can also promote the hospital's goals and reputation for quality, safety, efficiency and patient experience.

Examples include:

- Facilitating the standardization of best practices using evidence-based order sets,
- Avoiding redundant or unhelpful tests or treatments
- Supporting patient-centered medical homes (PCMH) and neighborhoods

By providing practicing physicians with a community EHR outreach offering, hospitals can:

- Improve physician relations
- Increase physician loyalty
- Enhance office practice productivity
- Promote healthier communities.

How Can Office Practices Benefit By Adopting a Hospital's Ambulatory EHR?

Improved the quality of patient care should be a prime motivator for EHR implementation. Commitment to this goal helps carry community-based ambulatory providers and staff through the significant work of planning, implementing, optimizing and connecting their EHRs to other systems where their patients receive care. Since the right kind of help can mitigate the effort and stress of the transition from paper to a connected EHR system, community practitioners will be looking for the kind of system and assistance that are compatible with their needs and preferences.

In general, community physicians want:

- An EHR system that is affordable, reliable and usable
- Assistance that speeds EHR planning, contracting, and implementation
- An EHR that is highly reliable and available, with minimal risk of unscheduled system downtime
- An EHR configuration that meets the needs of their specialty and supports their workflows
- Help managing change to accelerate their return to pre-EHR clinical productivity
- Interfaces that give them access to results, reports, orders, pharmacies, payers, and other providers
- End user assistance and IT support equal to that available to hospital-employed physicians
- Privacy of their practice's financial information

Real-time Access to the Patient's Hospital and Emergency Department Records

Office practices and practitioners share a similar quality agenda with the hospitals and health care systems in their communities. Many of the same benefits that accrue to hospitals will be seen by office practices that implement a properly designed and deployed ambulatory community EHR outreach offering.

Real-time notifications can be of great value to ambulatory providers and facilitate subsequent office follow up care by the patient's primary care physician:

- Emergency department encounters
- Hospital outpatient department visits
- Hospital admissions
- Access to key clinical information about the conditions identified and care delivered

Eliminating the need to request, enter and reconcile information from the hospital, such as paper document handling, manual entry of changes in Problem Lists, Medication Lists and Medication Allergy Lists, are just a few of the major advantages of a shared EHR system.

Building a Community-wide Shared Record

A community-wide shared record also benefits all office practices that participate in the hospital's community EHR outreach offering. Data gathered and decisions made in one practice are immediately available to other participating practices, improving or eliminating less efficient workflows that are otherwise required to share information between providers during transitions of care. Particularly when hospital and office records are integrated and connected to clinical decision support (CDS) systems, real-time access to relevant information can help reduce overuse (duplicative testing), underuse (failure to see and follow-up on new information), and misuse (non-evidence-based care) of tests and treatments.

While there are chart etiquette issues to consider in moving to a single shared chart model, such issues can generally be addressed to everyone's satisfaction so that the benefits of a single chart approach greatly exceed the associated challenges and costs.

Streamlining Processes and Promoting Ambulatory Quality, Safety and Efficiency Goals

Extending the hospital's ambulatory EHR to community practices can also improve the practice's goals and reputation for quality, safety, efficiency and positive patient experience by supporting the same kinds of standardization, evidence-based care, avoidance of waste and waiting, and support for the patient-centered medical home (PCMH) that benefit hospitals. In turn, physicians, staff and patients all experience fewer hassles and wasted time in getting and processing information, making decisions and coordinating care.

Benefitting from the Hospital's Experience, Support Systems and Financial Subsidies

A hospital that has successfully implemented an EHR system suitable for ambulatory practices in its service area is a rich source of experience, expertise, local support and potential financial subsidies that can ease an office practice's transition to EHR adoption and Meaningful Use.

A local hospital partner is also likely to have a strong vested interest in the success of practices with which it provides EHR implementation services. The hospital's solid track record of successful ambulatory EHR implementation and ongoing support helps ensure that it will guide the practice to do likewise, using known best practices for planning, infrastructure, system configuration, end-user training, go-live assistance and ongoing support.

Some of the major benefits of working with an experienced and successful hospital partner include:

- Having a robust yet affordable, reliable, and usable EHR system
- Working with hospital representatives already known to the practice rather than having to interact directly with the vendor
- Contracting and installing more efficiently with minimal disruption and practice downtime
- Getting up to 85% of the initial cost of certified EHR technology software (CEHRT) and implementation/support services subsidized by the hospital
- Using validated EHR workflows developed by local colleagues that can be locally tailored to the needs of the community office practice
- Getting help with change management
- Implementing established interfaces for results, reports, orders, etc.
- Employing proven training methods (relevant, local, available, workflow-based, specialty-specific)
- Returning to pre-EHR productivity more rapidly
- Having local end-user and information systems technical support
- Being assured of practice financial information privacy

The hospital's ability to provide financial subsidies to office practices, using Stark Law exceptions and anti-kickback "safe harbors", can greatly decrease the cost of converting the practice to an EHR system. Following the hospital's established best practices for EHR implementation accelerates recovery of office provider efficiency and productivity.

In addition, practices adopting an EHR for which the hospital's ambulatory practices have already successfully attested to meeting Meaningful Use measures means that Eligible Professionals (EP) in the community who use the same EHR can also qualify for Meaningful Use incentive payments. Finally, a robust community EHR outreach offering can help community providers qualify for incentive programs such as the Physicians Quality Reporting System (PQRS), and meet criteria to participate in Accountable Care Organizations (ACOs) and other Organized Systems of Care (OSC).

How Can Hospitals Meet The Expectations of Community Physicians?

Hosting the EHR

Hospitals often have the resources and infrastructure to host an EHR system for community physicians. This takes the burden of maintaining a server away from community physicians and their staffs, freeing them to focus on what they do best – care for patients and manage their practices. To deliver a hosted EHR solution, the hospital must ensure that a reliable, robust and secure remote connection is established between the practice and the hospital IT network. The hospital's network and infrastructure technical teams should be involved with the decision on how to deliver the network access. Some commonly used options include:

- Virtual Private Network (VPN)
- Direct connection through the hospital's "extranet"
- A secure remote Internet connection (https)

Implementation Best Practices

Community physicians can benefit from the lessons learned and best practices that hospitals identified during their Ambulatory EHR implementations. When the hospital replaces the EHR vendor to become the local implementation resource for the community-based ambulatory practice, it has a strong vested interest in making sure the implementation is successful. Offering the implementation planning, interfaces, training, and support as a total package will maximize the chance that the hospital's best practices will benefit the community practice.

A More Affordable Option

Stark and anti-kickback laws, which prohibit financial incentives from hospitals to affiliated physicians, have been granted exceptions or "safe harbors" through December 2013, with an extension (with modifications) under consideration at the time of this writing. The exception protects donation of interoperable EHR software or information technology and training services. The temporary rules allow hospitals to subsidize up to 85% of the cost of EHR software applications and implementation services offered to community providers. When compared to standalone solutions and direct practice contracting with an EHR vendor, this can represent a huge value.

Training and Support

The hospital system that extends its EHR to the community is generally seen as a pillar of the local healthcare community, remaining available over the long run and ensuring that once the practice is live, the hospital is readily available to provide supplemental training and ongoing support. Practices value having someone nearby who they can easily reach out to for reliable support and assistance with EHR optimization. Having an expert and

highly available local partner committed to the success of the practice is a major benefit not as easily achieved through direct contracting with an EHR vendor or third party support entity.

What are the Qualities of a Good EHR Partner?

The Hospital as a Good EHR Partner

The hospital should:

- Be able to describe its EHR vendor's awareness of and support for community EHR outreach products and services.
- Demonstrate integration or interoperability of its inpatient clinical information systems with its ambulatory EHR offering. For example, changes to medications at discharge from the hospital should automatically update the ambulatory EHR record. Likewise, pre-admission orders placed in the office should be available to be released and acted on in the hospital.
- Have a strong track record of implementing EHR and other health IT systems on time, within budgets, and with good acceptance and regular use after go-live.
- Demonstrate a commitment to regular and timely system updates and good maintenance. The hospital should be able to show a history of updates and maintenance.
- Have a track record of:
 - Rare and brief unscheduled EHR system downtimes
 - Scheduled downtimes at convenient times when practices are closed (nights, weekends)
 - Effective emergency downtime procedures, including "downtime computers" containing sufficient information to give the practice the information it needs to provide quality care on paper until the system is back online
 - The hospital should have and be able to clearly explain its process for recovery of patient information into the EHR after the downtime episode has ended.
- Have a strong training program with proficiency assessments that ensure users know how to use the system at go-live.
- Offer:
 - Super-user and standard user training
 - Booster training
 - Online learning modules
 - Access to the hospital's library of tips and tricks for efficiency and usability
- Offer a hosted EHR system with remote connection that obviates the need to have servers physically located in the office. A subscription model should be available for practices with limited capital resources that prefer this method of payment.
- Offer to subsidize at least some of the EHR software and implementation services costs where possible.

- Be able to convincingly demonstrate how it will keep the office practice’s business information private and separate from hospital data.
- Include representation from community practices in its relevant EHR governance committees.
- Clearly state how it will include community practices in its ongoing EHR optimization activities.
- Indicate how it provides electronic notifications in a timely manner to office providers about important admission, discharge and transfer (ADT) events (including ED arrivals and dispositions).
- Offer a true ambulatory EHR system, designed and implemented specifically for ambulatory practice patients, providers and workflows. Practices should be cautious of EHR offerings principally designed for inpatient care that are being offered to the office practice without clear evidence that the system has been sufficiently modified to support ambulatory needs.
- The hospital’s EHR offering must be certified for Meaningful Use in the ambulatory environment. The hospital should provide evidence that other Eligible Professionals have used the same EHR system deployed by the hospital to qualify for and receive Meaningful Use incentive payments.
- Hospital executive leadership should demonstrate a strong and consistent commitment to the hospital’s community EHR offering and resource it appropriately.
- The EHR being offered should be one that the providers and staff in the office practice have approved as one that they are willing to adopt and use in a meaningful way.
- Personal system configuration sessions that allow for practice with assistance should be conducted for each user.
- At-the-elbow support should be available during go-live.

The Office Practice as a Good EHR Partner: Readiness and Goodness of Fit

The major characteristics of office practices that make them good community EHR outreach program partners include:

- **Physicians and staff**
 - See a need to improve their provision of health care by using clinical computing and health IT and believe that having an EHR system is critically important to their future success.
 - Trust each other, work well together in teams and are willing to be accountable for using the EHR to improve patient care – including changing how they work.
 - Have a realistic understanding and reasonable expectations about EHR system capabilities.
 - Are willing to examine and adapt existing workflows to promote effectiveness and efficiency in using the EHR
 - Are willing to adapt their workflows to fit the existing EHR configuration without expecting major system redesign, build or practice-specific customization
 - Are committed to taking the time and effort required to learn how to use an EHR system well, to use it regularly to retrieve patient information and to document patient care during and between clinical encounters.

- See the hospital as a trusted partner and collaborator in the delivery of care to the patients served by the practice.
- Have had an opportunity to review and confirm that the hospital EHR's features, functions and workflows are suitable to the types of patients seen and services provided by the practice.
- Accept and value having a single chart shared by others outside of the practice.
- Commit to abiding by the hospital's Chart Etiquette guidelines.
- Will stay within the hospital's EHR implementation "guardrails" for best practices that promote a successful go-live.
- Prioritize using the EHR well over requesting changes.
- **Clinical and operational practice leaders (formal or informal)**
 - Are visibly supportive, engaged and committed to successful EHR implementation and continued use.
 - Set clear expectations for EHR use, address change management and practice culture issues, and regularly measure and report on important processes and outcomes.
 - Ensure that practice personnel have meaningful roles in EHR planning, implementation and personalization.
 - Serve as liaisons to the hospital EHR team for end user questions or concerns.
 - Are willing to decrease the number of scheduled patient visits during go-live and accept the short term negative impact effect on practice revenue. For practices where patient volume cannot be temporarily decreased, staffing is increased to accommodate temporary decreases in clinical efficiency.
- **The practice**
 - Has a track record of successful information technology implementation for use in clinical care.
 - Places a high value on information sharing with the hospital and other providers in the community.
 - Has identified practice super-users to promote and support EHR use.
 - Has a mechanism in place to recognize and reward appropriate use of the EHR system.
 - Will identify appropriate IT and other service providers (hospital or other) to support the office's facilities, hardware, networking, claims management and other needs. The service provider will perform an IT infrastructure readiness assessment (computers, network, wireless devices, printers, scanners, etc.) to determine additional needs, timing for completion and costs to the practice and health system.
 - Has assessed the impact that implementation of the hospital EHR may have on relationships with ancillary departments (orders, referrals) not connected to the hospital. \\

What are the Risks and Consequences of Not Adopting the Hospital's Ambulatory EHR?

EHR Capabilities and Licensure. Community providers who are pursuing EHR adoption but choose not to implement an available hospital EHR have a different set of issues to consider. Before purchasing CEHRT and implementation services directly from a vendor instead of the hospital, providers should directly compare each offering in terms of EHR capabilities, costs (financial, personnel and time) and services. They should ask whether the hospital can and will subsidize direct purchase of licenses from the vendor as an alternative to obtaining them from the hospital, as some vendors do not license directly to small practices. If direct license purchasing from the vendor is available but the available subsidy differs, such cost differences should be carefully considered.

Interoperability. EHR and other clinical information systems from different vendors continue to have significant interoperability barriers that prevent data from being shared altogether or require considerable time, effort and resources to exchange data in a manner that meets clinical needs.

At present, most EHRs do not provide seamless transmission of important clinical information in a way (i.e., structured) that can be effectively consumed and mapped by a receiving EHR from a different vendor. The best excel with some data (e.g., demographics, medications, progress notes) but are less effective in other areas (e.g., specialist notes, pathology results) or vary in small, significant details (different units of measure, frequencies, or quantities).

Work Effort. Work effort will be higher for providers who choose not to adopt the hospital's integrated ambulatory EHR offering and do not have effective interoperability. Considerable re-work will be required in the Emergency Department or by admitting clinicians at the hospital to gather and record key clinical data from the office (prior to admission medications, allergies, active problems, etc.). Likewise, office providers and staff will have a similar data entry burden to find, enter and reconcile important discharge information (new problems requiring follow-up, medication changes, new results after discharge, etc.) in the office EHR system. The benefits of an integrated system for electronic communication within the EHR may also be lost when providers are working in separate EHR systems.

Meaningful Use. With Meaningful Use requirements figuring more prominently in incentives today and reimbursement tomorrow, Eligible Professionals (EPs), Eligible Hospitals (EHs) and Critical Access Hospitals (CAHs) using the same EHR system with a community EHR component can all benefit from the meaningful use of others (e.g., recorded demographics, problems and medications, secure messages, etc.) Those EPs who decide to go it alone rather than adopting the hospital's EHR will also be on their own to record the same information rather than benefitting from (and contributing to) meaningful EHR use by others.

How Does the Hospital's EHR Design Philosophy Affect Suitability for Use in Community Practices?

A hospital's EHR design philosophy and system configuration needs to be mindful of the differences between the hospital and ambulatory environments.

Example: Inpatient medication ordering is more controlled, with a hospital formulary that is generally quite different and more limited than the choices in the ambulatory environment. The approach that helps inpatient pharmacies control costs (i.e., not product-specific), support medication substitution, and address drug shortages, may conflict with ambulatory prescribing needs. Ambulatory practices require a much larger, product-specific build for

electronic prescribing that permits selection of specific products. This much larger and potentially confusing list of medications can overwhelm physicians and increase the risk of medication prescribing errors, so safety controls should be available in the EHR system to minimize these risks.

When these two design approaches conflict, such as during transitions of care, the risk to patient safety can be significant. Medication reconciliation at admission or discharge might lead to the substitution of sustained release diltiazem 240 mg (product-specific) that is incorrectly matched to immediate release diltiazem (non-product specific) and administered in the hospital. The degree of risk to the patient depends on the approaches in both environments and the quality of both EHR builds. A well-built EHR and experienced technical support resources can mitigate much of the risk.

How Should Training and Proficiency be Delivered and Assessed?

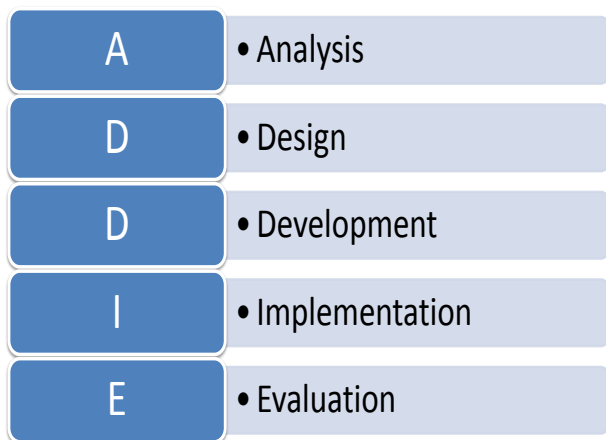
If providers and staff are not sufficiently proficient, office practices will struggle with effectiveness, efficiency and satisfaction at go-live. Likewise, training tools and processes that are not adequately tested and compared to office-specific workflows will not deliver their intended results. Providers routinely complain before go-live that they are expected to spend too much time in training; after go-live nearly all feel it should have been longer and/or more focused on their relevant workflows. To promote training that meets its intended goal of creating ready, willing and able EHR users, we offer the following recommendations:

1. Practice leadership must make it clear that training and proficiency are mandatory for all end users, including physicians. A process to ensure accountability should be in place well in advance of training.
2. Prior to training, involve practice end-users in any required system, workflow or integrated testing, especially any practice-specific test scripts.
3. Training must include demonstration of the proficiencies required for go-live and continued advancement of skills. Measure task completion and workflow proficiency directly; do not settle for demonstrating knowledge (e.g., a multiple-choice examination).
4. Apply sufficient financial resources to ensure highly effective training.
5. Training should expand beyond basic EHR functionality to include training and guided practice in specific EHR workflows that providers and staff in the practice agree will be important to doing their work well after go-live.
6. Training should be relevant to the user's role. For this reason, it is usually best to conduct separate training sessions for providers, clinical staff, and practice management staff.
7. Identify at least one super user from within the practice for each major role (provider, nurse, medical assistant, front desk, referrals, revenue cycle, etc.) and train them prior to training the other providers and staff in the practice. Have a relevant practice super user provide back-of-classroom assistance during regular training sessions for other users in the practice who have similar roles.
8. Incorporate adult learning principles, including answering the questions "Why do I need to learn this?" and "How will I complete my work in the new system compared to the old one?"
9. Be careful to ensure that enough time is devoted to training. Limit individual training sessions to the amount of information an individual can learn and retain in one sitting, with time between training sessions to absorb and practice what has been learned.

10. Offer basic computer literacy training for those users who are less computer-literate. Consider a basic computing proficiency assessment as a prerequisite to EHR training and conduct training and proficiency in basic computing for those who need it prior to having them participate in EHR training sessions.
11. Include specialty-specific training for providers and typical patient scenarios where appropriate.
12. Mandate training and practice in the use of personalization tools for orders, clinical documentation, and other relevant workflows.
13. Use evaluation tools, metrics and reports to verify that each user adequately understands all of the EHR features and functions needed for go-live.
14. Provide a realistic EHR practice environment to help users retain and build on the skills they gained in training.
15. Ensure that users practice their skills prior to go-live. Measure and report to practice leaders on the extent to which individual users practiced before go-live.

Identifying the EHR learning goals and objectives early on will ensure that the hospital trainers align with office staff on the standardized and best practice workflows that improve efficiency while meeting the needs of the practice. Designing EHR training can be disastrously ineffective without prior workflow analysis. Some local tailoring may be required but should be done within the “guard rails” of established best practices. Be prepared to find that some providers need one-on-one training, and expect all users to need additional training after go-live.

Applying the principles of the Analysis, Design, Development, Implementation and Evaluation (ADDIE) model for adult learning will provide both proficiency and efficiency while determining the appropriate training methodology.



Analysis: In the analysis stage, the training needs and practice issues are identified. Instructional goals and objectives are established. The learning environment (online learning, classroom, etc.) must be selected and the learners' existing knowledge and skills must be determined. If any future end-user lacks the basic knowledge or skills needed to successfully perform relevant tasks, prerequisite training or a change in role or position may be appropriate. Practice managers and physician leaders need to clearly define the goals and expected outcomes of training with their providers and staff and then define accountability within the practice for achieving them.

Design: This will have already been done and refined by the hospital as part of the ambulatory EHR implementation and optimization for its owned practices. The key for the independent office practice is the willingness and ability of its staff to follow the established training approach for physicians, nurses and staff and the ability of the trainer to personalize the training to fit typical care scenarios in the practice. If the community practice has patients, specialists, or services that cannot be adequately addressed with the hospital's existing training materials, additional design and development work will be required. This work should incorporate the lessons learned by the hospital in implementing other ambulatory practices.

Development: The hospital team of instructional designers and content specialists, programmers and graphic designers create and assemble additional defined content assets from the design phase. In general, most training materials developed by the hospital for its ambulatory practices should be suitable for community practices but new materials may be needed to support additional specialties, services or patient populations.

Typical assets include:

- Online learning modules
- Classroom lessons,
- Practice scenarios
- Pocket guides
- Tips and tricks documents
- Other instructional materials.

Implementation: During the implementation phase, the hospital's training team works with the practice to put into action a specific procedure for delivering the training in a manner consistent with hospital best practices and compatible with practice constraints.

Trainers should cover the:

- Course curriculum
- Expected outcomes
- Method of delivery
- Duration of individual training sessions
- Testing procedures
- Evaluation process

Decisions are made on the:

- E-learning materials to be used and whether they are required
- Classroom prerequisites
- General computer proficiency testing prior to EHR training
- Print materials to be used
- Computers, teaching labs, timing, duration, environmental factors
- Super-user involvement
- Other factors to ensure that the training experience is productive and enjoyable.

Since implementation includes training providers and staff that join the practice after go-live, it is also important to determine whether the hospital will support their training. The more the practice can align with the

hospital’s approach to ambulatory EHR training, the easier it will be to schedule the ongoing training that the hospital offers for its own new ambulatory EHR users.

Evaluation: This phase consists of two parts: formative and summative.

Formative evaluation is present in each stage of the process to assure consistency in adherence with the original plan and scope.

The **summative evaluation** consists of tests of the learning objectives, including end user proficiencies needed for go-live. Additional training and proficiency assessments after go-live can help ensure that users demonstrate progress from the basic proficiencies needed for go-live to the greater proficiency and efficiency that can be expected by three months, and mastery by six months.

What Are the Major Steps in Moving Forward with Practice Adoption of the Hospital’s EHR System?

Define the Basic Products and Services

Taking into account Stark Laws, the hospital should define the scope of CEHRT products and the services it will provide. If the hospital has an integrated practice management system and EHR product, it will likely want to deploy the whole suite to community practices. It must decide whether it can and will accommodate requests by community providers who want to retain their existing practice management systems. Doing so adds complexity, cost and risk to the hospital’s community outreach EHR program, and may add costs for the practice.

The hospital must also determine which applications and services it will include as part of its base package, which are optional and available at additional cost, and which are either not included or not applicable for a given practice. The practice can then decide what optional items it would like to purchase. Below is an example of a table that can be used to outline the applications and services:

Applications	Included	Optional	Not Included	Not Applicable
Registration				
Scheduling				
Ambulatory EHR				
<ul style="list-style-type: none"> Clinical Content/Tools 				
<ul style="list-style-type: none"> Online ordering to ancillary systems 				
<ul style="list-style-type: none"> E-Prescribing 				
Patient Portal / Secure Messaging				
Point of Service Scanning				
Standard Reporting by Specialty				
Professional Billing				
<ul style="list-style-type: none"> Eligibility 				
<ul style="list-style-type: none"> Claims clearinghouse 				
<ul style="list-style-type: none"> Mailing Service 				
Services	Included	Optional	Not included	Not Applicable
Site Evaluation & Technical Assessment				

Applications	Included	Optional	Not Included	Not Applicable
Implementation Build & Support				
Standard Go-live Training & Support				
Standard Helpdesk Telephone Support				
Network Connectivity (local)				
Office Hardware & Support (PC, printer, etc.)				
Additional On-site Application support				
Advanced EHR Training				
Customization (reporting, security, templates)				
Data Conversion				
Dictation (integrated with EHR)				
Voice recognition				

Define the Shared Data

Many of the benefits to the community practice and the hospital derive from sharing most clinical data. Clarifying expectations and getting a written agreement in this regard is important. It needs to be explicitly stated that the hospital and community practice will expect their practice management information to remain private.

The following table reflects one organization’s approach to defining the community practice recorded data that will be shared, as well as the data that will not be shared:

Clinical Data - Shared	Registration & Financial Data – Shared
Allergies	Patient Demographics
Medications (Current & historical)	Emergency Contact
Immunizations	Registration & Financial Data – Not Shared
Encounter/Visit Information	Appointment Schedule
Clinical Content	Coverage Information
System Lists	Guarantor Information
Clinical Data – Not Shared	Charges
Practice-specific Office Visit Navigators	Claims Review and Processing
Practice Flow Sheets & Templates	Payment Plan
Confidential/Secure Notes	Financial Reporting
	Accounts Receivable
	Productivity Reports

Pricing

To standardize and simplify their community EHR outreach offerings, hospitals may decide to deploy their ambulatory EHR with the same features and functionalities that are used by its own ambulatory offices. This makes all of the interfaces, clinical content, and patient portal available to community physicians. Since implementation services and training are critical to a successful go-live, they should be included in the pricing. Hardware and equipment cannot be included in pricing due to Stark limitations.

The hospital offering the EHR to community practices will gather all of its costs and determine a subsidy level. Having information on competitor pricing (both private EHR companies and other hospital systems offering a community physician EHR program) in your region will help inform the price and subsidy level set by the hospital. The hospital may offer subscription pricing or allow practices to purchase their own licenses and then

pay a maintenance fee. The latter approach has higher up-front costs but may allow the practice to take its purchased license as an asset if it decides to terminate the community outreach contract.

The following table is an example of how the one-time installation costs and monthly fee (subscription model) can be displayed for a community practice, with the subsidy that will be offered to the practice included. Note that fixed costs of setting up the practice (regardless of size) are listed separately from the costs that vary by the number of providers:

One-time Installation Cost (Example)						
	<i>No Subsidy</i>	<i>50% Subsidy</i>	<i>65% Subsidy</i>	<i>75% Subsidy</i>	<i>80% Subsidy</i>	<i>85% Subsidy</i>
Per PRACTICE Set-up Fee	\$ 35,000	\$ 17,500	\$ 12,250	\$ 8,750	\$ 7,000	\$ 5,250
Including Downtime Computer*	\$ 39,000	\$ 21,500	\$ 16,250	\$ 12,750	\$ 11,000	\$ 9,250
Per PROVIDER Set-up Fee	\$ 15,000	\$ 7,500	\$ 5,250	\$ 3,750	\$ 3,000	\$ 2,250

Monthly Fee (Example)						
	<i>No Subsidy</i>	<i>50% Subsidy</i>	<i>65% Subsidy</i>	<i>75% Subsidy</i>	<i>80% Subsidy</i>	<i>85% Subsidy</i>
Monthly Fee Per Provider	\$ 735	\$ 368	\$ 257	\$ 184	\$ 147	\$ 110

The hospital will need to be careful to include only those products and services eligible for Stark Law exceptions. It will also need to decide which products and services to include in its base fee and which will be available at additional cost. It will also need to determine what percentage subsidy to offer (up to 85% is permitted by law) and any other eligibility criteria, such as being credentialed by the hospital (to ensure appropriate credentials and create accountability for appropriate EHR use). Regulations prohibit a practice replacing an existing EHR that is already certified for Meaningful Use from receiving subsidies.

The hospital will also need to decide whether it will use a provider number or provider FTE cost structure to accommodate practices with a large number of providers that are part-time. The key hospital requirement is to offer the subsidy to all providers in the community. Stark anti-kickback legal experts should participate in establishing an appropriate pricing framework. Commonly used pricing structures include per provider, per FTE provider, and per maximum number of simultaneous users. Finally, the hospital will need to determine and communicate how long the monthly subscription or maintenance fee subsidy will apply.

Some practices will find even the subsidized prices to be challenging. Each community practice should start with a budget of what it can afford and use the budgeted amount to determine whether and when to take some of the optional products and services that are offered. Subscription pricing and remote EHR hosting can also reduce the larger up-front costs of purchasing EHR software and servers.

To drive the organizational change that fosters engagement in workflow redesign, training and best EHR system use, practices should attempt to enumerate the both the potential financial return on investment (e.g., Meaningful Use payments, improved charge capture, staff productivity gains) and intangible benefits (e.g., 24/7 chart access, data organization and presentation, population management capability, real-time performance reporting, workflow efficiency gains) that an effective EHR implementation can bring.

Marketing

Depending on historical relationships and level of trust between the community-based providers and the hospital or health care system, providers may be either excited at the prospects of a community outreach EHR offering or skeptical of its motives. Establishing trust and mutual purpose are early first steps in exploring an EHR community outreach offering. Be transparent about costs and offer a pricing strategy that community practices will see as the hospital's cost to provide the products and services.

The main message should be that the products and services are being offered to improve patient care quality and value, while streamlining information sharing between the practice, the hospital and other providers using the system.

Marketing materials and presentations should demonstrate the following benefits that can and should accrue to community practices:

- A robust, patient-centric EHR with all data in the patient's electronic chart regardless of where care was delivered
- Shared clinical and quality data
- Support for clinical integration and participation in future payment models (e.g., Accountable Care Organizations, Organized Systems of Care)
- Presence of needed clinical interfaces (e.g., laboratory, radiology/PACS, pathology, immunization registry reporting)
- Discounted pricing
- Interoperability and support for health information exchange
- Help desk support
- A patient portal
- E-prescribing
- Integration between EHR (clinical data) and practice management systems (registration, scheduling and billing).
- Document management system to incorporate external clinical information (scanning)
- Sharing of clinical information while keeping private all billing, financials, scheduling and registration information.
- Access to integrated hospital library knowledge resources
- Best practice implementation methodology with rapid installation and accelerated return to base line productivity.
- Effective end user training for staff and providers

Contracting

The hospital or health system's legal counsel will need to create a legal agreement with the community practice for the products and services to be provided, and for the responsibilities of all parties in the agreement. Legal

specialists in Stark Laws and anti-kickback safe harbors should be consulted. At a minimum, the following areas should be defined in the contract:

1. Items and Services

- a. Practice technology obligations
- b. Implementation Services
- c. Support Services
- d. System Access (License and Data Collection)

2. Practice Responsibilities

- a. User Management
- b. Physical security of EHR data
- c. User authentication controls
- d. Verifying patient identities
- e. Warranties
- f. Compliance
- g. Access to Data
- h. Data Format
- i. Restrictions
- j. Corrective Action
- k. Cooperation
- l. Contact with Vendor
- m. Internal Costs

3. Hospital Responsibilities

4. Limitations, Data Transmission

5. Fees and Payment

6. Term and Termination

7. Clinical Data Integrity

8. Confidentiality and Patient Information

9. Ownership Rights

- a. Intellectual property ownership
- b. Data ownership
- c. EHR system ownership

10. Indemnity

11. Limitations of Liability

12. Insurance Obligations

13. Subpoenas

14. Third Party Beneficiaries

15. Dispute Resolution

16. Attachments

- a. Description of Services
- b. Hardware Requirements
- c. Individual Access Agreements
- d. Notice of Privacy Practice
- e. HIPAA Business Associate Agreement
- f. Fees/Cost Summary

The following contracting points are worth highlighting from the practice perspective:

Applications Included/Excluded: In addition to the EHR, make sure it is clear what connectivity the hospital will provide, such as to:

- An HIE or other Health Information Services Provider (HISP)
- Local and mail order pharmacies
- External service providers (laboratory, imaging centers that are not part of the hospital or health system)
- Disease registries and public health agencies
- External billing entities

Services Included/Excluded: The contract should also clearly list those services that are included and those that are

excluded, particularly if there is an expectation that they must be obtained from a third party.

For example, it is important to clarify from where and how the office will receive and pay for technical support, as well as whether the hospital will be providing data migration/conversion support for practices that currently use a different EHR, or paper chart abstraction for practices converting from paper charts.

Practice Technology Obligations: Among the various equipment/hardware choices, it is important to know which are required and which are optional. Practices should clarify which of their existing hardware can be used and which will need to be replaced or purchased new. Support for device integration, such as automated blood pressure cuffs, electrocardiography (ECG) or pulmonary function testing (PFT) equipment, and other devices may be limited and should be discussed.

Practice Responsibilities: The practice must be responsible for its role in physical security. The contract should be clear regarding the specific controls the practice must take to ensure that authentication is valid (to avoid repudiation), limit the risk of data being stolen (e.g. by encrypting all data at rest and in transit), verify patient identity and minimize the risk of identity theft.

Hospital Responsibilities: The hospital often decides which ambulatory EHR it will offer to community practices with no or limited input from them. The hospital will be responsible for the implementation process, developing a training plan, and scheduling adequate support to the practice during implementation, go-live and stabilization, with assessment of competency milestones achieved. The hospital will be responsible for determining when EHR and infrastructure upgrades are needed and work with the practice to make sure they are ready.

Limitations, Data Transmission: Practices should be aware that the hospital will want to make contractually clear that it is not responsible for data rates or data quality of service unless the hospital is actually providing the data pipe to the community practice's office. Since it is reasonable to hold entities accountable only for those things under their control, practices should consider their options in this regard.

Fees and Payment: Terms of the contract must include what the fees are, what they cover, when they are due, when they are deemed to be late, what additional fees are levied for being late or violating contractual terms. Ultimately, it is important to outline ultimately what could lead to cancellation of the service.

Term and Termination: An EHR is a long-term commitment. Practices and hospitals are encouraged to make the initial term of their contracts at least one year and preferably longer, as the transition to EHR can be rocky and the financial and quality return on investment generally takes more than a year. In general, longer contracts are also better when you consider the initial capital expenditure and ongoing maintenance costs. Termination for cause should still require at least 4-6 weeks' notice to facilitate a smoother transition and to ensure that no patients experience quality or safety issues. Termination without cause should be at least 90 days and should include some financial costs if it occurs less than one year from initiation of the services.

Confidentiality and Patient Information: In most cases, the hospital and the provider will already have agreements that support HIPAA, but this service is likely to be seen as separate from those agreements. As a result, it is wise to offer a HIPAA Business Associate Agreement to ensure that both parties understand their respective roles and responsibilities under the law for this specific relationship.

Ownership Rights: It is important to clarify who "owns" the software and the patient data. In general, the practice will need to "own" the patient data from the perspective of being able to take data from the EHR system in the event of contract termination so as to ensure patient care continuity. Some state laws may offer different interpretations. In general, the hospital will own everything else, with the exception of any hardware that the practice has purchased.

Indemnity and Limitations of Liability: While software and implementation errors can be a source of EHR system liability, the majority is related to user error or failure to use the system correctly. As a result, hospitals will want to

limit their liability to those components of the system over which they have control and ask providers to indemnify them against errors due to clinical use of the products and services.

Community providers will generally be covered by their liability carriers for such errors, but both entities may wish to have a copy of their coverage attached to the contract to ensure that coverage and related language stating that it or similar coverage will be in place at all times. In addition, hospitals will want to be notified about changes in coverage within 30 days.

Legal options for dispute resolution differ in monetary cost, resource cost, time involved from initiation to resolution, and public relations cost. If you want to minimize all of these factors, you may want to consider clauses requiring mediation and binding arbitration.

Staffing Plan

Depending on the hospital or health system's status with regard to its own enterprise EHR implementation, roll out and optimization, it will need to decide the most effective and efficient community practice planning, implementation and support strategy. Community practice leaders should determine whether there is an implementation team specifically assigned to assist the community private practices. If not, practices should get assurance that there is sufficient staffing to ensure success. T

The cost, complexity and risk of a community practice implementation is minimized if the practice can use the hospital's standard EHR build with only those configuration changes needed to reflect the different personnel, patients and services provided in the office. Even when a standard implementation is planned, at least one analyst should be assigned to the practice for EHR build, one analyst for billing/registration/scheduling build and a project manager. For ongoing support after go-live, there should be one support analyst for every 50 physicians. A physician champion who has previously assisted in the hospital's ambulatory EHR implementation should also be involved in helping with the practice's EHR planning, implementation and go-live.

Network Infrastructure

Before the hospital's ambulatory EHR is deployed at a community practice, a plan for how to ensure a secure, reliable and robust connection to the hospital network must be defined. Common options include virtual private networks (VPNs), a remote application access solution (e.g., Citrix), or a direct connection. The hospital should define what it will provide and support, as well as the community practice's responsibility with regard to infrastructure. Below is a sample scope and responsibility description for a direct connection to the hospital:

Basic Service Description

The [EHR Community Outreach Program Name] service is designed to provide Electronic Health Record (EHR) application access to [Hospital] business partners over a dedicated communications link managed by [Hospital].

Basic Infrastructure Description

[Hospital] IT Department will work with [the customer] and service providers to deliver a router with a single Ethernet port for [EHR Community Outreach Program Name] services. This port will be connected to [the customer's] local area network and configured with a locally addressable address on [the customer's] network. [The customer's] routing device must be configured to route [Hospital EHR name] traffic towards this address. In addition, any server side printers will need a static NAT (Network Address Translation) entry on the site router. The [Hospital EHR name] Wide Area Network (WAN) link and DEMARC extension will be ordered and administered by the [Hospital] IT Department which will hold the contract for that service. [Hospital] IT Department will perform a site assessment and build a detailed design document. This document will describe the build plan for the site and provide a bulleted list of site recommendations for customer changes.

[Hospital] Responsibilities

- Order, Install, Test, and Monitor the WAN circuit to the [customer] site
- Work with the selected telecommunications company to extend the DEMARC (the network interface device) that connects the public network to the practice's on-premises wiring
- Order and Install premise routing and switching equipment
- Develop unique configurations for the [customer] installation
- Connect [customer] network to the [hospital] network
- Respond to trouble calls placed to the [Hospital] IT Help Desk
- Notify the customer of any maintenance at least 24 hours in advance if that maintenance will affect [Hospital EHR name] services

[Customer] Responsibilities

- Provide [Hospital] IT with [customer] primary and alternate contact information (name, phone, email)
- Provide [Hospital] IT Department a means of 24 x 7 premise access for maintenance purposes (e.g., call primary contact for access or provide key access)
- Provide a secure location to install the DEMARC extension and routing/switching equipment.
- Configure [customer site] routing engine as directed by [Hospital] IT for [Hospital EHR name] connectivity
- Relay any changes to site configuration to [Hospital] IT (e.g., adding an office printer)
- Notify [Hospital] IT Help Desk of any planned outages that would affect the site router (e.g., power outages, remodeling work to the telecommunications closet, etc.)
- [Hospital] recommends but does not require power conditioning, environmental (temperature/humidity), and access control for the site telecommunication closet

Hardware Assessment

A plan needs to be established jointly to verify that the proper hardware and equipment are in place in the community practice. This can be done by the hospital or a third party vendor. The cost of the hardware assessment should be included in the total pricing of the product.

Meaningful Use

Community practices will be very interested in collecting incentive payments for Meaningful Use, as well as avoiding penalties in 2015 and beyond. An analysis should be completed to determine whether each of the Covered Practitioners (CPs) in the practice are also Eligible Professionals (EPs) under the Medicare program, the Medicaid program (which pays more and for a longer period of time), or both (although only one program can be selected per EP). Once determined, a plan to ensure that every CP who is also an EP has a path to Meaningful Use that is supported by the technology, training and performance feedback.

Practice leaders should make it clear that Meaningful Use incentive payments will depend on appropriate use of the EHR by providers and staff. Use reports provided by the EHR to will provide feedback and coaching, as well as establishing accountability. Depending on the program selected, the practice or individual EPs will need to submit Meaningful Use reports to CMS individually, using the data from the EHR.

EHR Project Management and Implementation Timeline

The complexity of an EHR implementation requires that the project manager create an effective and accurate implementation timeline. Promote the concept that EHR implementation is not a static destination. It is as much a perpetual journey of discovery and improvement as is healthcare quality itself. Getting alignment around this concept fosters continued collaborative efforts between the hospital and practice that continue well beyond go-live to improve EHR use and usefulness for all.

Strong project management skills are required to successfully track and plan for an effective implementation.

A typical project implementation will consist of:

- Defining a Physician Champion/Decision-maker for the practice
- Defining a Clinical/Nursing Champion/Decision-maker for the practice
- Performing a detailed practice workflow analysis
- Hardware installation
- Software installation
- Selected paper chart data abstraction (Problems, Medications, Allergies, etc.) for patients scheduled to be seen soon after go-live, with a plan for ongoing 'just in time' abstraction for scheduled visits thereafter, and a plan for handling urgent or walk-in visits
- Scanning of selected historical documents from the paper chart if desired
- Interfaces (Laboratory, Practice Management, Clinical Devices, etc.)
- Device Interfaces (Vital signs, electrocardiography, pulmonary function testing, etc.)
- E-Prescribing Setup
- EHR Conversion (EHR-to-EHR data conversion, if applicable)
- Practice Management Data Dump
- Clinical Workflow Customizations
- EHR Software Training

- Go-Live

Understanding the goals and objectives of the practice, in conjunction with a completed workflow analysis, will inform an effective timeline. If EHR implementation proceeds without sufficient project management skills or resources, the project will likely miss important milestone target dates and take longer than necessary. This will cause the practice to lose confidence in the implementation, which may jeopardize the project. A typical implementation for a single-provider practice can take 60-90 days to complete all the required deliverables needed to begin training. For each additional provider, consider adding an additional 2-3 weeks to the timeline. While it may feel important to implement quickly, attention to detail is critical for a successful implementation.

Additional Resources

- Zaroukian MH. "Hospital Engagement with Community Physicians on HIT Adoption and Meaningful Use." Web. June 2013. <http://www.youtube.com/watch?v=Sfjw6BKeSmE&feature=youtu.be>
- Zaroukian, MH. "Health Information Technology Readiness Survey" and "Health Information Technology Donations: A guide for Physicians." Chicago: American Medical Association. 2008:1-18. Web. June 2013. http://www.ama-assn.org/ama1/pub/upload/mm/472/hitdonate_physicians.pdf.
- Marino, D. "Physician EMRs – Turning a Medical Practice Tool into a Hospital Strategy Lever." *Health Strategy Alert!* Issue 1, 2010. Web. June 2013. <http://www.healthdirections.com/articles/physician-emr/>
- Health Direction Community EMR Deployment Strategy General Resources. Web. June 2013. <http://www.healthdirections.com/search/?q=community+EMR+deployment+strategy>
- Anders, J., Ura, S. & Coleman, G. "Fostering Hospital Relationships with Community Physicians through the Implementation of Interoperable Electronic Health Records." Web. June 2013. <http://www.healthleadersmedia.com/content/228137.pdf>
- Main Line Health (MLH). Main Line Community Physician EMR Program. Web. June 2013. <http://www.mainlinehealth.org/doc/Page.asp?PageID=DOC002233>
- Cinque, M. "Can IT Help Hospitals Improve Their Relationships with Community Physicians?" *iHealthBeat*. September 2, 2008. Web. June 2013. <http://www.ihealthbeat.org/perspectives/2008/can-it-help-hospitals-improve-their-relationships-with-community-physicians.aspx>
- Cincinnati Children's Hospital Medical Center: "The Cincinnati Children's Community EHR Project." Web. June 2013. <http://www.cincinnatichildrens.org/service/c/community-practice-services/community-ehr/>
- Vaughan, C. "Hospitals as Software Service Providers – Perspectives." Health Leaders Media. Web. June 2013. <http://www.healthleadersmedia.com/page-2/MAG-247660/Hospitals-as-Software-Service-Providers>
- "Adventist HealthCare Program to Help Community Physicians Implement Electronic Medical Records." Adventist HealthCare. Web. June 2013. <http://www.adventisthealthcare.com/about/news/2010/physicians-electronic-medical-records/>
- "Care Connect for Community Physicians." Rochester General Health System. Web. June 2013. <http://www.rochestergeneral.org/care-connect/care-connect-for-community-physicians/>

- “Sutter Health Invests in New EHR Offering; Expands Options for Physicians in Independent Practice.” Sutter Health. April 4, 2011. Web. June 2013.
http://www.sutterhealth.org/about/news/news11_Sutter-Community-Connect-EHR-for-physicians-independent-practices.html

"Baptist Health South Florida Selects CareCloud to Drive Adoption of Electronic Health Records by Physicians across Florida." BusinessWire, 18 Oct. 2012. Web. 12 June 2013
<http://www.businesswire.com/news/home/20121018005833/en/Baptist-Health-South-Florida-Selects-CareCloud-Drive>

Contributors

Editor:

Michael H. Zaroukian, MD, PhD, FACP, FHIMSS, Vice President & Chief Medical Information Officer, Sparrow Health System, Lansing, MI; Professor of Medicine, Michigan State University, East Lansing, MI

Contributors:

Michelle Cox, Project Manager, iSparrow EHR team - Community Connect, Sparrow Health System, Lansing, MI

Chinua Lambie, MHA, HIT - Health IT Consultant, Washington, DC

Norma Lopez, MD, Principal Consultant, Physician to Physician EHR Strategies, Swampscott, MA

Dan Marino, President and CEO, Health Directions, LLC, Home Glen, IL

Alrington McNichol, Sr. Systems Analyst, Piedmont Healthcare, Atlanta, GA

Larry Ozeran, MD, President, Clinical Informatics, Inc., Yuba City, CA

Michael Paquin, FHIMSS, Principal and Health Care Strategist, Thousand Oaks, CA

Sulabh Srivastava, Chief Technology Officer, Sparrow Health System, Lansing, MI

Portia Towns, BS, Project Manager - EHR Operational Specialist, Valley Stream, NY

Michael Van Ornum, RN, RPh, Clinical Pharmacist, Rochester, NY