Introduction

Effectively managing any EHR (Electronic Health Record) implementation can be challenging. At any size – from a rural acute care facility to a large multi-entity health system – an EHR implementation is complex. The good news is that an effective EHR implementation improves clinical processes and provides the right clinical data at the right time – when clinicians need it for effective patient health care decision making. Experience has shown an effective EHR implementation will enable better patient care and improve patient safety (reduce patient care errors) while ensuring billing accuracy and maximizing reimbursement potential.

Following are some time-tested guidelines, developed over Phoenix Health Systems’ years of implementation project management experience, for effectively managing a successful EHR project implementation.

First, it is compelling to understand the inverse – the major factors for project failure:

- Inadequate vetting of EHR vendors and software offerings
- Unclear goals, including poor synchrony with enterprise objectives
- Insufficient planning
- Incomplete specifications
- Underestimation of project complexity
- Unsatisfactory project management and control
- Poor internal communication and training

Implicit in the issue of project complexity are insufficient planning and lack of project resources (people) and time. Simply, you could buy the most robust EHR software in the world, but its implementation will likely fail if the EHR software implementation is hindered by any of the factors above.

EHR or EMR – Which is It?

How many times have we heard Electronic Health Record (EHR) and Electronic Medical Record (EMR) used interchangeably? Which terms have a higher degree of acceptance in the healthcare arena?
Though arguably equivalent terms, we have chosen to use the EHR, as defined by the Health Information and Management Systems Society (HIMSS):

“"The Electronic Health Record (EHR) is a secure, real-time, point-of-care, patient-centric information resource for clinicians. The EHR aids clinicians’ decision making by providing timely access to patient health record information and by incorporating evidence-based decision support. The EHR automates and streamlines the clinician’s workflow, closing loops in communication and response that result in delays or gaps in care. The EHR also supports the collection of data for uses other than direct clinical care, such as billing, quality management, outcomes reporting, resource planning, and public health disease surveillance and reporting.”

Basically, the EHR is the patient’s health record - cradle to grave - in electronic (computer) form.

An EHR is a comprehensive, integrated set of clinical processes, which require operational change. The goal of an EHR implementation is safer and more effective patient care. The EHR is generally not considered “owned” by any one physician. From a regional or community health perspective, the EHR is seen as integrated “pieces of information” which can be provided by any or all of the following:

- Hospital facilities
- Family/primary care physician
- Specialist(s)
- Labs
- Radiology facilities
- Pharmacies
- Insurance carriers/health plans

The EHR is a longitudinal record of an individual patient’s health record -- the sum of the patient’s total experiences in the community.

First Things First: Establish a Project Management Framework

Successfully implementing an EHR involves more than selection, signing a contract and installing the software. Begin the implementation process as a project with the discipline of a project management framework around it. If your organization does not have IT staff with deep experience in implementation project management, you many need to bring in external EHR implementation specialists to manage it.

For large, complex projects with many system and process interfaces, a Program Management Office (PMO) should be considered to conduct all aspects of the EHR implementation.
Large or small, according to the Project Management Institute (PMI), best practices processes cover:

- Procurement
- Initiation
- Planning
- Executing
- Monitoring and controlling
- Closing

1. Procurement
   - Undertaking the EHR procurement process is one of the most critical aspects of moving to a new operational environment. Negotiating your purchase and attendant deliverables is typically a daunting process that is complicated by vendor pressures and competition, as well as legal complexities. Your leadership may feel uncomfortable in this environment; if so, an external consultant with strong experience in systems procurement may save major expense and long term vulnerability.

   - Select a vendor partner who can offer expert knowledge, committed and sufficient implementation support and training, and a flexible and customizable approach to your people and processes. Ensure that the vendor will address existing patient data conversion and software interfaces.

   - When vetting EHR vendor options, you must understand the feasibility of the software functionality. How does its intended functionality perform in operation elsewhere? How will your current processes be impacted by the desired outcomes of “future state” functions? An EHR example would be the impact of “point and click” templates that help input patient data electronically using mobile devices at the point of care.

2. Initiation
   - One of the keys to a successful EHR implementation is creating a project team to manage the EHR implementation project process. First, select your organization’s project manager. This should be a person with an extensive experience in managing health care projects. Preferably, the project manager should be a certified as a Project Management Professional (PMP), a designation offered by the Project Management Institute, an internationally respected, standards-based professional organization.
Next, identify key project stakeholders. Project success depends on the selection of the right internal leadership. In the EHR implementation realm, this should include your organization’s Board, executives, and leadership -- representing physicians, nursing, and clinicians in the inpatient, outpatient (clinics), emergency and ancillary departmental areas. As the members of the EHR Committee, they will oversee the project and the project team. They will make decisions to address any high-level issues that may arise. From the beginning, the EHR Committee needs to “buy in” to the EHR. Ideally, the project will be championed by your organization’s chief physician(s) with a strong commitment to project success.

You should understand your organization’s culture and its degree of acceptance to technical and process change resulting from computer-based processes. In an EHR implementation, learning new clinical flow processes will be key, and for many staff members, difficult. Training efforts should be estimated at 25 to 35 percent of the work effort. Management and staff commitment to learn and implement new staff processes must be a given from the start, and remain constant through the project.

It is fundamentally important to analyze and fully understand your organization’s “current state” processes at the outset. How are you currently doing orders, charge capture and billing, flow sheets, and medication administration records? How is your patient chart data recorded? How does your current system and operation integrate its functionality internally and externally with radiology, labs and pharmacies? Are the processes consistent and standardized across the continuum of care? Where are the processes inconsistent?

Determine and document the driving vision, business need, and related regulatory mandates such as Meaningful Use and project objectives. There should be articulation and documentation of specific project goals, including:

- Best possible care and clinical outcomes for patients
- Patient safety
- Patient satisfaction
- User satisfaction
- Retention of talented staff
- Sound financial performance
- Solid data security
- Realization of Meaningful Use goals
- Realization of other strategic enterprise objectives
- Confidence of the community

Select a project team that has the requisite clinical and technical skills to do the work and represents the areas in your organization that will maintain and use the EHR. This will include a mix of clinical and patient management/billing people, generally the “super-users” that will lead the project implementation in their areas and train their associates.
Finally, you will need to analyze, understand and document the scope of the project. This would include any assumptions, constraints, or any other influences on the project. An example could be the project budget. These influences can be related to governmental regulations, finances or safety. As the project proceeds, scope management will help the project from suffering from “scope creep.”

3. Planning

A project plan should address everything from workflow to project schedules, on to hardware/ software selection and installation, and finally to staff training. This is where the preliminary scope statement is finalized, documented and presented to the EHR Committee.

- Quality standards should be determined to measure the before and after project improvements – such as reduced patient care errors, no lost or misplaced charts, zero transcription errors and shortened length of stay. Before selecting EHR software, identify the problems in your organization that should be corrected and collect baseline data. Be specific and identify measurable goals. An EHR implementation can yield a large number of clinical, financial and organizational improvements.

- In the planning process, your organization’s project manager should determine your project team’s roles and responsibilities, and clearly communicate these expectations to the project team members in your project kick-off meeting.

- Your organization’s EHR project manager will need to set the groundwork for strong communications throughout the project. This will require developing a communications plan that addresses the needs and concerns of stakeholders. Consider which will be more appropriate: formal presentations, speeches, project plans, and status memos; informal e-mails, meetings and conversations; or some combination.

- The EHR Committee, stakeholders and project team need to consider the risks inherent in the project. One example could be that the physicians using the EHR are resistant to adopting the new processes and begin admitting patients at other facilities. Examine contingencies or other remedies to mitigate risks; in this example, a contingency could be to recruit physicians experienced in using an EHR.

- EHR project planning needs to consider technical platform requirements and people and process requirements. Examples of hardware requirements are mobile devices in the clinical areas, identifying network and wireless changes, and setting up the central computer room or command centers. Examples of people and process improvement requirements are redesigning workflows and then building and installing the software to support these new workflows. Also, training, procedures and documentation are necessary to effectively make the re-designed work flows operational.
The technical, people and process requirements need to be translated into work packages (defined activities and tasks) that are observable and measurable. Your experienced project manager will use these work packages in leading the estimation effort so that it may be translated into a project schedule. Once this schedule is baselined, project costs and expended resource time will be able to be monitored, measured and controlled.

Once your organization’s EHR project manager has completed the project plan, your organization is ready to start the “Executing” phase of the EHR process.

4. Executing

When executing a successful EHR project, you must consider your infrastructural readiness, application configuration readiness, and training readiness. Appropriate hardware must be in place well before your live implementation. These should include adequate workstations, printers, servers and wireless devices, and related security measures.

- Prior to live implementation, you should execute your detailed test plan. This would include functional, integration and volume testing. Integration testing should include all the functional elements and their interfaces. Application configurations need to include workflows, procedures and all areas of the clinical record design. Volume testing should be done on the future state hardware platform. This is important to ensure adequate infrastructure and computing resources to support the EHR project.

- Be sure to allocate enough time for adequate training, which will have to be managed around the users’ schedules and workloads. If possible, designate training rooms and classes away from the clinical areas. Designate super users in all areas during the “Go Live,” to extend the implementation staff’s capabilities and champion the goals of the project. Evaluate staff readiness before making the decision to go live.

5. Monitoring and Controlling

Using metrics for EHR effectiveness, you must compare existing costs to your process costs after implementation. Metrics on quality and cost are necessary for measuring EHR effectiveness in making clinical data more accessible and interchangeable. The effectiveness of training also should be measured, using competency tests before EHR access is authorized to a user.

- Change control is a critical factor in gaining EHR project execution stability. With such sophisticated technology and other interdependent systems, any small change in one system has the potential to affect the perception of their operational stability.
A responsive help desk and a problem tracking and daily status reporting system will be essential in maintaining stability. Status reporting will improve communications as well as aid in assigning responsibilities and priorities.

6. Closing the Project

Officially closing projects is a best practice articulated by the Project Management Institute. In addition to obtaining formal acceptance, the project manager should measure customer satisfaction, which in the case of EHRs, would apply to clinical users. Are physicians and nurses achieving the goals and objectives of the project? Is this measured in terms of ease of use, more effective and efficient patient chart tracking, and patient safety? If achieving progress in Meaningful Use is pertinent, can this progress be documented? In closing the project, formal project sign-off from users and other stakeholders is should be considered a major goal.

- Are the appropriate project functions being formally turned over to the users and IT for their ongoing processes? To complete the project, all project resources (people and equipment) need to be released back to your organization’s departments.

- Documenting “lessons learned” should also be done in the project closing period. Should the project manager have allocated more time and resources for training? Were the new workflow processes well-documented and consistent across the organization? The “lessons learned” historical documentation will serve as a very helpful reference for future organizational projects.

In Summary -- successful EHR projects share these key elements:

- **Vendors that bring value to the EHR implementation “table”**

  Given the complex nature of EHR implementation, your organization should work with vendors who bring expertise and a flexible, customized approach. This should include knowledge of the IT marketplace, including software, hardware, security and Internet connectivity. Vendors should also have capabilities relating to issues such as HIPAA, Meaningful Use, potential ACO participation, and patient management and billing.

- **Project management framework and discipline established**

  Incorporate project management principles and structure, as promulgated by the Project Management Institute (PMI), into your EHR project. From the very start, an experienced project manager should be engaged on the project. If the project is large and complex, consider using a Program Management Office (PMO.)
• **Clinical project driven by clinicians and supported by IT**

The EHR must be a number one organizational priority. Physicians, nurses and other clinicians need to provide leadership in the communication, planning, building, process redesign and implementation of the EHR. Project direction can be driven by an EHR committee led by chief physicians and IT, which will provide the needed project, network and application implementation support.

• **Full-scale analysis of the current state and re-design of all clinical processes for the future state**

To help ensure a successful implementation, involve clinicians in the modification of your current-state EHR. Design, modification and enhancement priorities need to be primarily the decisions of multi-disciplinary clinician design teams. These teams should possess a sense of project ownership and focus on the future state -- improving clinical processes, user effectiveness and efficiency, enhancing patient safety, and achieving Meaningful Use objectives.

• **Comprehensive training plan**

A comprehensive training plan that addresses EHR functionality and computer basics is essential for success. Plan between 25 and 35 percent of work effort for this project.

• **Complete clinical adoption across the organization of the EHR project**

The way to ensure adoption by clinicians is to involve them in every aspect of the EHR project, e.g., system selection and procurement, process redesign, pilots and training. Their project involvement should be encouraged as much as possible so that they can clearly see the EHR project value and benefits to them.

• **Documented and justified Return on Investment (ROI)**

Document and clearly define the EHR system’s ROI. Use hard metrics such as the value of electronic order entry and eliminating transcription errors as a means of measuring your EHR project ROI.

• **Communication, leading and collaboration**

Foster an organizational culture of trust and collaboration, across administration, clinicians and IT. A positive attitude - with the goal of a successful project – is essential. Clearly communicate the project vision and goals and obtain stakeholder “buy-in.” Define a project framework with clearly defined roles and responsibilities. Foster and reward teams that will work well together to achieve project goals.
• Expect EHR project complexity and factor it into project planning
  Estimating and allowing for the project’s complexity – by committing the needed
resources and consistently communicating to stakeholders - is a critical success
factor. A clearly defined project plan and scope statement will control and prevent
unanticipated demands on resources as a result of “scope creep.”

About Phoenix Health Systems:
Phoenix Health Systems offers a comprehensive range of professional IT services focused
on creating a positive clinical, operational and business impact for every hospital client. Our
depth of experience spans the complete range of IT-related challenges facing both large and
small hospitals in. Phoenix brings:

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• Proven top-of-the-industry methodologies and tools
• Nimble, personalized collaboration with every client’s C-Suite to achieve enterprise
  objectives
• A passion for improving quality of patient care, patient safety, and the bottom line
• A deep understanding of Meaningful Use mandates and benefits -- and other
  regulatory requirements
• An energized perspective on the future of healthcare
• A commitment to keeping our promises

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