**Unit 9**

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**Content**

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* **Key Technologies for Improvements**

**Introduction**

In this unit, you will develop a strategic proposal analyzing the priorities of a typical health care organization. You will also be tasked with understanding how data drives decision-making processes and how health care organizations set strategic goals. As a health care leader, you will likely be called upon in your career to create the direction of a project. Using research and data to support your direction and decisions is critical in the evidence-based era of health care management. Synthesizing previous work can enable you to create a succinct proposal and rationale that demonstrates the need and value of your proposition. A strong and well-supported proposal is more likely to be considered by the leadership.

The complexity of HIM technology requires a sound strategy throughout the implementation phase and well into the end-user experience. Continual and ongoing evaluation of the systems is very important to ensure compliance with regulations and the appropriate use of EHR and other components. Health care managers must understand who their target audience is when developing a strategic plan related to HIM systems. They also need to have a strong understanding of the data that is collected through the systems and how that data impacts decision making.

Learning Activities

[Collapse All](https://courserooma.capella.edu/webapps/blackboard/content/listContent.jsp?course_id=_122058_1&content_id=_6473294_1&mode=reset)

* [Toggle Drawer](https://courserooma.capella.edu/webapps/blackboard/content/listContent.jsp?course_id=_122058_1&content_id=_6473294_1&mode=reset)

**[u09s1] Unit 9 Study 1**

**Studies**

**Readings**

**Ethical Considerations**

* + Genes, N., & Appel, J. (2013). [Ethics of data sequestration in electronic health records.](http://search.proquest.com.library.capella.edu/docview/1477185572?accountid=27965) *Cambridge Quarterly of Healthcare Ethics*, *22*(4), 365–372.

**Quality Improvement**

* + Ajami, S. & Amini. F. (2013). [Evaluate the ability of clinical decision support systems (CDSSs) to improve clinical practice.](http://search.proquest.com.library.capella.edu/docview/1319716720?accountid=27965) *Medical Archives, 67*(2), 126–130.
	+ Baxter, C., Dell, R., Publ, S., & Race, R. (2013). [Assessing and improving EHR data quality (updated).](http://library.capella.edu/login?url=https://search-proquest-com.library.capella.edu/docview/1313207804?accountid=27965) *Journal of AHIMA, 84*(3), 48-53.
	+ Drake, K. (2015). [Using EHR data to enhance quality improvement.](http://library.capella.edu/login?url=http://ovidsp.ovid.com.library.capella.edu/ovidweb.cgi?T=JS&CSC=Y&NEWS=N&PAGE=fulltext&AN=00006247-201512000-00013&LSLINK=80&D=ovft) *Nursing Management, 46*(12), 56.
	+ [Health and medical informatics; new health and medical informatics study results reported from J. Taggart et al (structured data quality reports to improve EHR data quality).](http://library.capella.edu/login?url=https://search-proquest-com.library.capella.edu/docview/1734199232?accountid=27965) (2015, November 24). *Information Technology Newsweekly,* pp. 110.

**Learning Components**

This activity will help you achieve the following learning components:

* + Understand how data analysis can lead to quality improvement.
	+ Understand data best practices.
	+ Understand how quality improvement initiatives impact an organizations technology and workflow.

[**[u09a1] Unit 9 Assignment 1**](https://courserooma.capella.edu/webapps/assignment/uploadAssignment?content_id=_6476287_1&course_id=_122058_1&group_id=&mode=view)

**Health Information Improvement Proposal**

**Scenario**

You have been asked to create a proposal for improving data collection and analysis **based on the current EHR at Independence Medical center and the recommendations you already made during your work**. Despite being meaningful use certified, the leadership team feels that the organization needs to make better use of patient data to improve clinical outcomes, quality, and efficiency.

**Your board of directors have asked you to prepare a full proposal and are relying on you to provide them with the most current and relevant information to help them decide on the next steps related to improvements and analysis.**

**Instructions**

In this assessment, you will create an **8–10-page proposal** that summarizes findings, aligns the appropriate data with the organization's strategic goals, identifies current trends in data analytics, and provides recommendations for next steps based on your assessment of the organization's readiness to proceed. You should feel free to draw on relevant aspects of the previous assessments in this course to help you complete this assessment.

**Your proposal will be evaluated on the following criteria:**

* + **Explains recommendations related to technological and logistical changes to an organization's HIM system. Identifies potential challenges to implementing recommendations.**
	+ **Explains how data products and outcomes from recommendations align with an organization's administrative and clinical goals. Proposes criteria that could be used to evaluate how well recommendations contribute towards organizational goals.**
	+ **Analyzes how contemporary data analysis trends could be leveraged to improve current practices in an organization. Identifies processes that could be implemented to ensure continuous improvement.**
	+ **Recommends best practices for collecting data, securely storing data and converting data analytics into useful and understandable deliverables. Identifies specific processes to ensure that recommendations can be sustainably performed.**
	+ **Applies relevant evidence and best practices to target proposal messaging to stakeholders. Identifies challenges in persuading all relevant stakeholders.**
	+ **Communicate proposal in a professional, clear, and concise way.**
	+ **Integrate relevant sources to support assertions, correctly formatting citations and references using current APA style.**

**Additional Requirements**

Your proposal should meet the following requirements:

* **Written communication**: Written communication is free of errors that detract from the overall message.
* **APA formatting**: Resources and citations are formatted according to current APA style and formatting standards.
* **Number of resources**: **3–5 peer-reviewed resources** from scholarly journal articles.
* **Length: 8–10 pages**, double-spaced, excluding the title page and reference page. **Please write an abstract for your submission & add a conclusion.**

**Transcript:**

**Vila Health® Activity**

**Analysis of an EHR System**

* [Introduction](https://media.capella.edu/CourseMedia/MHA5016/VH_analysisOfAnEHRSystem/transcript.asp#introduction)
* [Scene 1: Hospital Leadership](https://media.capella.edu/CourseMedia/MHA5016/VH_analysisOfAnEHRSystem/transcript.asp#scenario1)
* [Scene 2: Clinical Services - Leadership](https://media.capella.edu/CourseMedia/MHA5016/VH_analysisOfAnEHRSystem/transcript.asp#scenario2)
* [Scene 3: Clinical Staff](https://media.capella.edu/CourseMedia/MHA5016/VH_analysisOfAnEHRSystem/transcript.asp#scenario3)
* [Credits](https://media.capella.edu/CourseMedia/MHA5016/VH_analysisOfAnEHRSystem/transcript.asp#credits)

**Scene 1: Hospital Leadership**

As the Quality Assurance Manager at Independence Medical Center, you have been tasked with reviewing the current electronic health record (EHR) system. The leadership team at Vila Health has concerns that the current system is not fully compliant with existing regulations and Meaningful Use guidelines. Today you will be gathering information for a presentation you are preparing for Vila Health leadership. The EHR in use at Independence Medical Center is an Opus\* system that was implemented in 2008. The CPOE is an Opus module, but none of the other health information systems in use at Independence Medical Center are Opus products.

\*Opus is a fictional EHR system comparable with systems such as Epic or Cerner.

**Scene 1**

**Norman Reynolds, Independence Medical Center CEO**

The systems we’re discussing are the Electronic Health Record - the EHR; the CPOE – computerized physician order entry, the pharmacy system, the lab system and the PACS, which handles all the digital images from a variety of sources. Overall, the systems do the job they’re designed for, but interoperability has been a problem from day one. We were assured that these systems would work well together, but to a large extent I think we were sold a bill of goods – particularly in terms of the pharmacy system. Nothing is completely bad, but workflows could be much more efficient.

**Gwendolyn Zimmer, Independence Medical Center COO**

One area where we could improve things would be our inventory control. If the system we had interfaced with the EHR we would be able to integrate operational functions with medical needs far more efficiently. Let me give you an example: May Nichols is the head of Environmental Services. She’s responsible for sending housekeeping to the various units for cleaning, linen supply, and so forth. So, say three patients are being discharged from the med-surg unit today. If the EHR fed the discharge information to May’s system, she would know when a team needed to be sent to med-surg and what they needed in terms of supplies. Integrating teams like housekeeping, transportation, and central supply with the clinical systems would help us provide just in time services much more efficiently.

**Albert Lynton, Operations Manager**

My department is responsible for responding to whatever movement of people is occurring. Admissions, Security, Safety, and Environmental Services – they support the daily operations. The Environmental Services department has a materials information system and a cart management system they work with. Safety works with other departments systems – the EHR and the census management system, and Security has its own system relevant to building and access monitoring. One issue that’s been raised time and again is that the supply systems don’t tag to the EHR, so the nursing staff has to manually enter supplies that are being used for patient care to the patient’s record so supplies are accurately billed. Most of the time, they do it, but it’s a clunky system and no-one thinks it works well.

**Leticia Craig, Director of Business Services**

I’m responsible for medical records, admissions, and contracts management. My people access and create patient data in a variety of ways. Admissions gathers information about incoming patients – through pre-registration and then when the patient actually arrives at the facility. Primarily, we’re working with the EHR for admissions. The biggest problems we see relate to interoperability and … well, just problems with how information can be retrieved. It’s all there, but it isn’t always easy to work with. Billing is an ongoing problem – different insurers have different requirements for how we provide information. Things as simple as dates – some insurers want it in a completely numeric format – month, date, year. Another one wants it in numeric and alpha format – 7 APR 1958, for example. And not 07 Apr 58, either. Which is fine, except that the EHR only outputs the information in a numeric format. There are a number of situations like that where we have the information, but we can’t customize the reports or output in more than one way.

**Angela Thornton, Medical Records Supervisor**

One issue I’ve been running into is that our EHR has some components that were retrofitted to meet the requirements of the Affordable Care Act. That’s fine, but because it was a retrofit, it was sort of rushed and we’ve been seeing issues where records aren’t showing up in audits. It’s my understanding that it’s a bug that was introduced when we were trying to use the system for Meaningful Use certification. There were also issues when some departments tried to use wireless devices to access the EHR and the devices weren’t syncing the way they were supposed to. So someone would think she was in the system, but it didn’t actually save to the patient's record.

**Emily Strickland, Business Services Supervisor**

My direct reports are admissions specialists, who gather information from patients as they’re being admitted, or in the case of elective admissions, beforehand. If the record is being created prior to the admission, the specialists provide information to the patient. Things like what prep they should do, what they can or might want to bring, whether they should have someone with them, in the case of an outpatient procedure, for instance. That sort of thing. And often they are the ones to gather discharge instructions for the patient or the caregiver when the patient is ready for discharge. So, my people are in the EHR or the patient scheduling system usually. If things are slow, the admissions specialists help with data entry, so they might be working with other systems, but the EHR is their primary tool.

**Scene 2: Clinical Services - Leadership**

**Patricia Deering, MS, Chief Medical Officer**

In order to provide the best care, physicians and the rest of the care team need a complete patient record. Our current EHR struggles with integrating the many different kinds of information that makes up a patient record and so we continue to have health information in multiple locations – some digital and some physical. That’s just not acceptable any more. We need to be able to get all the information integrated into one record. I’m told, though that doing so would be a massive undertaking. The system that I receive the most complaints about is the EHR. There are two reasons for that: One, the EHR doesn’t communicate with the existing systems the way we were led to believe it would, and two, the EHR itself is clunky and just doesn’t work very well. I have to admit, I’d give anything to be able to scrap it and start fresh – preferably with one of the industry leaders. There are two that have really taken over the market and we really should be looking at either one of those.

**Shawn Hayden, Chief of Diagnostic Services**

My area of responsibility is the diagnostic departments: Imaging, lab, pharmacy, audiology, neurology. Those departments all need to be able to schedule tests, and a way to communicate the results to the doctors or other providers who need them. They need regular maintenance or replacement of the equipment they use, and a way to communicate their needs if equipment stops functioning.

Each of my departments has its own tracking system for patients and tests, or in the case of the pharmacy, for patients and meds. These tie into the EHR so my people have to check there to see what else has been ordered. These systems take in orders and track what test or image or med is required for which patient. In many cases the actual image or test is being accomplished digitally and the results are stored within these systems. One complaint about the current system is that people downstream don’t automatically see the results. They can see that the imaging or tests are complete but they can’t view the results without manually importing them into the patient’s record.

**Charles Ortiz, Clinical Laboratory Manager**

The lab information system – LIS – we currently have works well for our purposes. It lets us track all our samples, tests, results, and related information. We also work with the EHR in that it’s the system that tells us when a test has been ordered and reflects the results. One problem we have is that because our system and the EHR are two separate systems, the information isn’t the same in the two systems. The EHR gets a report, but unfortunately not the full result.

**Aaron Johnson, Pharmacy Manager**

So far as technology needs for the pharmacy go, we need to be able to keep track of every single medication that comes into the hospital, what and how to compound them, and every medication that goes out to a medical unit. We also need to be able to communicate what medications we have on site so doctors aren’t prescribing something we don’t have, and to get prescription orders from the medical units. The systems we use most often are the formulary; the pharmacy system; the EHR; and the medication management system, which is a subsystem of the main pharmacy system.

**Diane St. John, Chief Nursing Officer**

All of my nursing managers need to be able to schedule 24/7 coverage for their units, and get help if their coverage isn’t complete. They need to be able to see doctors’ orders for patient treatment so they can deliver medications, do bedside blood draws or deliver the more ambulatory patients for lab tests or images, and check vital signs relevant to those orders. They need maintenance for whatever on-site equipment they have in their unit, including replacement or repair, and they need a way to communicate their needs beyond the routine restocking of surgical tools and supplies when they come up. They need access to discharge instructions when patients are ready to go. So … the computer systems that control all those functions, we need to be able to access. The routine use systems, though, would be the CPOE, the EHR, the patient scheduling software, and Central Supply’s supply request system, whatever that’s called. Oh … and the transportation scheduling system. That’s an outlier, but used all the time.

**Scene 3: Clinical Staff**

**Linnea Eckert, Nurse Manager – Ambulatory Services**

Our technology needs have become more significant, particularly with the advent of Meaningful Use guidelines. We need technology to tell us which patients are coming in and why. We need it to keeps all the information about a patient in one place. We use the computer to pull instructions and guidance about various conditions that’s written for patients and their families. We need technology that alerts us to drug interactions or other warnings. We have all kinds of needs… and theoretically the EHR and other resources the hospital pays for are designed to help meet those needs.

Lack of integration is a real headache. Because our systems are still sort of patchworked together, instead of having one record to go to, we have to pull records from a couple different sources. That isn’t necessarily a problem, but it does interfere with workflow and efficiency. And, quite frankly, the EHR isn’t easy to use. It isn’t intuitive or geared to how we actually interact with patients.

**Evan Schmidt, Nurse Manager – Cancer Center**

Well, we’re primarily concerned with accessing orders, since a large part of what we’re doing is chemo and radiation for patients in active treatment. We have to see who is scheduled to come in for treatment, and whether it’s chemo or a biopsy or surgery. And I need to be able to schedule for coverage or request temporary staffing if I don’t have enough. For the most part we use the EHR to review the orders and meds of the day, and to generate the case notes that tell the next nurse on shift what’s been done and what needs doing. The EHR we use here at Independence doesn’t always support our work flows. For anyone who remembers what the flow of information in a hospital used to be like, the EHR is great, but this system in particular could be some much better. Clunky is the best way to describe it.

**Debra Green, Nurse Manager - ICU**

In the ICU we’re dealing with patients with acute conditions and there’s technology for monitoring these conditions – heart monitoring, repeated blood tests for a whole range of stuff, that kind of thing. So we need more monitoring technology than the other nursing units have, and we generate more orders for tests, procedures, and images. Other than that, we have the same needs the other nursing units have: scheduling, supply ordering, maintenance, and so forth.

So, we’re working with the EHR, and Central Supply’s system. We can’t look at their inventory, but we can request what we need through the clinical-facing side of their system.

One problem we encounter is that the problem list – that’s a feature of the patient’s chart – often isn’t updated when a patient is admitted to the ICU.

**Cathy Petters, RN, Cancer Center**

You want to know what technology I use most in my day to day work? My own two hands, my eyes, and my brain. Yeah, I use the EHR. But not because I want to. I know there isn’t any point to complaining, but I hate the EHR. A lot of the nurses hate that thing, and use it as little as they can. It doesn’t work, the information in it is untrustworthy – at least in that it’s incomplete – and we do more of our work *around* it than *in* it, if you see what I mean. The problem is that virtually every screen is asking for information we don’t need and putting up roadblocks up that make charting take far too long. The amount of time we have to spend using technology to document what we do is starting to outstrip what we actually do. How am I supposed to make a patient comfortable or attend to her needs when I’m busy clicking boxes?

**Ruby Martindale, RN, Emergency Department**

Since I have to document what I’m doing, both for later nurses or docs and the meaningful use business, I need a system that can do that. Quickly and preferably one that actually works, unlike our EHR. And of course I need to see the orders for the patients on my shift, including meds and if they’re moving somewhere else or going home. I use the EHR, of course; the CPOE; the pharmacy’s formulary. And of course, the patient scheduling software. Occasionally I’m the charge nurse for the day, so I might have to use the staffing software.

or the most part, the various systems meet our needs and when they don’t, we just find a way to get it done anyway. I would say that the way people use the EHR is a problem, and I include myself in that. I don’t feel I’m wrong to find a shortcut when I’m dealing with an emergency, but I know that billing and other departments sometimes don’t have what they need because of my shortcuts. But it takes forever to get small things changed, and sometimes we have to ask repeatedly. I don’t think it’s Jason’s fault, and he keeps us in the loop, but he can’t make the vendor respond faster.

**Matthew Allen, Laboratory Technician**

I regularly use the EHR, our LIS, and the various admin systems. I also on e-mail and the Internet for working with the lab in Waterloo. The EHR and LIS provide information about what tests or blood draws I need to do. The EHR has the patient record, and the lab system has information about normal ranges and what out of range results indicate. Oh … and I think that billing and coding has to get the lab tests into the EHR in order to bill the procedures to the appropriate insurance. It’s pretty smooth. Well, except not having the full report in the EHR sometimes causes problems for the billing and coding people. They don’t always have everything they need for coding and even small omissions in billing can result in denial of claims.

**Emma Young, Pharmacist**

I regularly use the EHR, our LIS, and the various admin systems. I also on e-mail and the Internet for working with the lab in Waterloo. The EHR and LIS provide information about what tests or blood draws I need to do. The EHR has the patient record, and the lab system has information about normal ranges and what out of range results indicate. Oh … and I think that billing and coding has to get the lab tests into the EHR in order to bill the procedures to the appropriate insurance. It’s pretty smooth. Well, except not having the full report in the EHR sometimes causes problems for the billing and coding people. They don’t always have everything they need for coding and even small omissions in billing can result in denial of claims.

**Conclusion**

**Activity complete!**

Having met with a wide variety of employees at Independence Medical Center, you should now have a solid understanding of what health information systems are in use, who uses those systems, and how well those systems are meeting the needs of their users and the hospital as a whole. You should be able to use this information to prepare your analysis of the current EHR and your recommendations for improvements.

**What are your main observations about the EHR in use at Independence Medical Center?**

Your response:

This question has not been answered yet.

**Feedback:** Meaningful Use Criteria goals are intended to improve access to patient health data by the patient’s health care team and to improve reporting, outreach, and other clinical support. Protecting patient privacy while also providing patients and family access to information are also important goals. There are several aspects of this system that obstruct those goals.

**From the perspective of regulatory compliance, what areas should be addressed first?**

Your response:

This question has not been answered yet.

**Feedback:** Determining what changes would help Independence Medical Center achieve Meaningful Use goals and improve patient care and/or patient experience is the first step to deciding how to improve the overall system. Try to identify the places where patient care and patient experience could be most improved.

**Credits**

Subject Matter Expert:

Christopher Miller

Interactive Design:

Danielle Kaardal Meyer

Interactive Developer:

Dre Allen, Matt Taylor

Instructional Design:

Brian Hagen

Media Instructional Design:

Felicity Pearson

Project Management:

Alan Campbnell

[**[u09d1] Unit 9 Discussion 1**](https://courserooma.capella.edu/webapps/blackboard/content/launchLink.jsp?course_id=_122058_1&content_id=_6476288_1&mode=view)

**Communicating Technical Recommendations to Nontechnical Audiences**

By the end of this unit, you will be submitting your Health Information Improvement Proposal assignment. A key component of the assignment is explaining data products, outcomes, and contemporary data analysis trends. The audience for this assignment is presumed to be a leadership that does not necessarily have a strong data or technical background. Therefore, part of the success of your proposal will be your ability to communicate technical information and recommendations to an audience with potentially limited technical understanding.

For your main post of the discussion, please address the following:

* Describe one or more of the key technical aspects of your Health Information Improvement Proposal.
* Identify the stakeholder groups that are critical to the successful implementation of the aspects of your proposal related to the key technical aspects you described.
* Explain strategies for communicating the key technical aspects to each stakeholder group to ensure clarity and success.
* Explain how failing to implement appropriate communication strategies could introduce elements of risk into the implementation process.

Support your post with at least one peer-reviewed source, using course readings or other scholarly literature. Include APA-formatted in-text citations and accompanying congruent APA-formatted references.

**Response Guidelines**

~~Respond to at least two of your peers.~~

~~Address the following in your response to your peers:~~

* ~~Comment on the alignment between the identified stakeholders and the key technical aspects that your peers described.~~
* ~~Comment on the likely effectiveness of communicating the key technical aspects to each stakeholder group.~~
	+ ~~What suggestions for improvements do you have for your peers?~~
* ~~Provide one suggestion on how your peers could potentially mitigate any risk that they included in their discussion post.~~

**Learning Components**

This activity will help you achieve the following learning components:

* Describe key technical aspects of an improvement project.
* Identify stakeholders that are key to the success of a project.
* Identify strategies for communicating the key technical aspects of a project to stakeholder groups to ensure clarity and success.
* Identify the risk to a project of failing to message appropriately.
* Apply current APA style guidelines.
* Write clearly and accurately.