Adapting to New Electronic Health Record Processes

Case Study

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August 26, 2016

This paper is being submitted in partial fulfillment of the requirements of Fellowship in the American College of Medical Practice Executives.
Introduction

The implementation of new technology can come with challenges along with benefits, and healthcare leaders must remain flexible and adept to overcome them. This case study will examine the implementation of the Health Artifact and Image Management Solution (HAIMS) in a small medical group practice named the Thomas Koritz Clinic. In the pursuit of continuing to improve medical record filing in the electronic form, the Air Force Medical Service adopted this new capability within its already existing electronic health record (EHR) system for a couple of reasons. Although the existing EHR system had been in place for almost a decade, Air Force clinics still maintained hard copy medical records to store documents that were faxed in or dropped off by patients. HAIMS enabled users to upload and store those files, such as radiographs, photographs, and hard copy notes related to a patient’s healthcare into his or her already existing EHR. According to Air Force policy, the objective of HAIMS is to give healthcare providers access to essential healthcare artifacts and images throughout the continuum of care (Air Force Medical Service Agency, 2012). HAIMS was also established to provide a streamlined electronic transfer of a patient’s EHR from the Department of Defense system to the Veterans Administration system when military service members leave the service (Cronk, 2014). It gave immediate availability and global access to hard copy records from civilian providers, and every Air Force hospital and clinic initiated training on the new capability in late 2013. Then in 2014, a policy required that all hard copy referral results from non-military treatment facility hospitals would be scanned and uploaded to HAIMS (Air Force Medical Service Agency, 2014).

Prior to the implementation of HAIMS at the Thomas Koritz Clinic, a referral management staff member delivered all referral results to providers in hard copy form. Providers documented their review on the top page with their signature and date, and then the document was scanned and uploaded to an older module in the EHR called Clinical Notes. This older module was unsustainable for large files and did not allow for categorizing and applying metadata to the documents being scanned in. The entire review process was required to be completed
within a six-day timeframe – three days for the provider review and three days to scan and upload the files into the patient’s EHR. The HAIMS module was deployed to the Thomas Koritz Clinic in late 2013. The new policy required that referral management staff upload results into HAIMS as soon as they were received, then send an electronic notification to providers within the EHR.

Staff members received initial training and were directed to begin scanning all hard copy medical record documents into HAIMS. However, the clinic modified its initial adaptation due to known challenges with HAIMS, which were an unreliable network and a lack of staff buy-in.

When initially deployed, HAIMS was extremely slow and often froze or logged users out of the system at random. With providers receiving as many as fifteen referral results each day, the time required to review and sign results electronically versus hard copy was much longer on average. Due to the system’s inconsistencies, the clinic did not adopt the new process as the policy was written. The Chief of the Medical Staff and Executive Staff agreed that referral management staff will continue to route referral results to the providers in hard copy form, and after they sign it, the record will be uploaded into the new HAIMS module. This process existed for approximately six months.

In late July 2014, several factors compounded to make the initially chosen process no longer sustainable. The medical records room staff, responsible for scanning in referral results after they were reviewed by providers, fell behind in scanning in the reviewed referral results, and the stacks of documents were mounting at a rapid rate. Part of this was due to increased volumes and other clinics started to deliver hard copy documents that had been stored for years in old offices to medical records as well. Additionally, the hard copy routing of results presented risks such as lost paper records, backlogs due to extended time spent in a provider’s office, and illegible provider signatures and dates on the results, making them difficult to read. In this process, the results were often not loaded into HAIMS until over seven days past the date it was faxed to the clinic. Another highly inefficient aspect to the process was that the incoming referral results actually came in on a fax line that saved documents directly to an electronic PDF file. In
the current process, the electronic file was printed out, reviewed in hard copy form by a provider, and then scanned in again to electronic form. The supervisor of the Medical Records section brought these growing problems up to leadership and a meeting was called to discuss a way ahead.

**Alternatives Considered**

The Chief of the Medical Staff and the clinic Administrator convened a meeting that included the Medical Records supervisor, Referral Management staff, clinic representatives from the referring clinics, and the Patient Administration Flight Commander. During the meeting, the members explained their primary issues with the current process. The decision rested on two alternatives: 1) continue with the current process and find a way to clear the backlog to catch up on the workload, or 2) revise the process to upload all results into HAIMS initially, and route an electronic consult message to the providers for their electronically documented review.

The members present in the meeting discussed the pros and cons of each alternative in the meeting. The status quo provided the benefit of not requiring any new training, as it would just be a matter of reallocating personnel, time, and resources to clear the backlog. However, the status quo would likely continue to be difficult to maintain and it would not address the problems associated with routing results in hard copy form. It would also continue to delay the length of time that a referral result was available in the EHR.

The second proposal, changing the process to route all referral results electronically, would provide the benefit of reducing paper waste and eliminating the risks associated with maintaining control of hard copy medical documents. It would also ensure that the referral results were available in the EHR in a shorter timeframe. The downside to the new process was that it would potentially take more time for provider’s to review and document, especially if HAIMS was not working properly. Additionally, it would require newly defined workflows and some training to ensure all members were educated on the new process.
Chosen Solution

The personnel gathered at the meeting agreed that the HAIMS latency issues were no longer as much of a problem as they were initially. Therefore, the opportunity to follow the policy mandate of initially uploading referral results in HAIMS and routing notifications to the referring provider electronically was agreed upon as the best method moving forward. The inefficiencies from printing out the referral results in hard copy format, inaccuracies found with documents going missing, provider reviews missing a date or not being on the note at all, were additional motivating factors for moving to a fully electronic review process. Secondly, this process eliminated the intensive work of scanning and uploading hard copy documents from the Medical Records room staff. Moving forward, the Patient Administration Flight Commander and the Referral Management staff would need to establish workflows for uploading the documents to HAIMS and sending electronic consult messages to providers in a timely, standardized manner.

An additional outcome of the meeting was that the Chief of the Medical Staff set a clear policy that all clinics would be responsible for scanning in their own hard copy documents. The Referral Management staff would only be responsible for uploading results related to a referral. Everyone agreed to this business rule. The clinics identified personnel to upload documents into HAIMS without much difficulty, as many personnel had received the training in late 2013 when HAIMS was initially implemented.

The Referral Management staff was actually eager to take on the process of uploading the already electronic referral result into the patient’s EHR, as they understood that it was much more efficient than the previous process. Medical Records room staff cleared the backlog that existed within the next couple of weeks, and the Referral Management Center quickly integrated their new task. The new course of action was a major change for the providers, who now had to utilize an electronic review process for referral result reviews. Because notifications were sent in an individual message for each patient, each provider saw an increase of approximately five to ten electronic messages every two days. As long as HAIMS worked reliably and quickly, the time...
spent reviewing results electronically was minimally different from reviewing them in hard copy form.

Overall, there was a major reduction in the time it took for a referral result to be received by the clinic and then uploaded into the patient’s medical record. It went from a range of five to ten days or more to same day electronic availability. A significant value in the new process was the improvement to patient safety, since results were available in the EHR much sooner, as long as Referral Management staff uploaded results in a timely manner.

**Lessons Learned**

As with most new technological initiatives, the primary lessons learned came from realizing unforeseen challenges. One issue that arose was an increase in data entry errors. Some electronic fax files saved in batches, so multiple patient records were compiled in one file. This required that the technician break out the original file into multiple files. Additionally, attention to detail was more imperative because each electronic message required the user to select and type multiple fields of data, all of which presented opportunities for error. Fortunately, these errors could be fixed rather easily once identified. In the first three months, the Referral Management staff reported around thirty errors per month. On-the-spot training and experience or familiarity with the system brought the errors to no more than five per month. Although the errors could be easily fixed, the Patient Safety Manager and clinic leadership agreed that the errors should still be identified and documented in a patient safety report, which the referral management staff did to give due diligence to the process.

Another problem that presented a challenge was the highly varied workload volume, requiring the referral management staff to request for help on some days that an unusually large amount of referral results would come in. Some days and months had a higher volume of workload than others, all of which were caused by seasonality, capacity, access, referral patterns, and the frequency and volume of requesting referral results. This made it very difficult to define the appropriate staffing ratio at any given time to upload the received results in the same day.
Specifically in the months of October and November 2014, the increased amount of referrals in the summer months resulted in more incoming referral results, and additional staff was necessary to help augment the Referral Management staff during that timeframe to keep up with the increased workload.

Finally, a very valuable lesson learned was the need for consistent, standardized training so that everyone utilizing the system followed the same procedures throughout the clinic. The Air Force’s Access to Care instruction provided baseline rules for all to follow; however, it was still necessary to reinforce those rules through hands-on training and experience. Also, the rules for uploading documents into HAIMS and labeling documents were written out over several pages in a 100-plus page document – not a very user friendly tool when technicians must upload the documents in a timely manner. So the leadership of Referral Management created a half-page, easy-to-read checklist that staff members could keep on their desk or close to their monitor, and it highlighted certain areas to double-check for accuracy, to prevent data errors, which could potentially result in patient safety incidents or HIPAA violations.

**Conclusion**

Overall, the new electronic process greatly reduced the amount of time it took to input a referral result into a patient’s EHR, but getting to that point required time, gradual change, and adaptability. Some concerns lingered, such as the time required to review notes electronically versus in hard copy form – electronic review was especially difficult if HAIMS was slow or not working at all. Discussion continued on how to improve these aspects of reviewing referral results; however, it was clear that the movement towards a fully electronic process was an essential step towards a more reliable and useful EHR system. By taking the approach of implementing a process that works for as many members of the stakeholders as possible and considers the system’s reliability and functionality, the clinic adopted the tool on its own terms in a way that worked for them and was eventually in line with the Air Force-wide policy. Once implemented, using HAIMS on the front end and submitting an electronic message to the
provider to review it reduced the amount of workload on staff that went towards printing, sorting, and scanning the documents that were already electronic at the point of origin. The new electronic review process also offered an easily identifiable note in the patient’s EHR to show that a provider reviewed a referral result. Eventually, providers and the Chief of Medical Staff came to realize the benefit of using HAIMS as intended by the policy, thus reducing the amount of hard copy medical records transiting from one office to another. A process that used to take over six days now took three or less days, and the referral management and provider staff were able to focus on providing safer patient care.
Bibliography

