

Case Study - Implementing EHR at Central City Medical Group

Why did Deb Moore, the new executive director, and CCMG decide to implement EMR? Were there any characteristics of the practice that made it particularly interesting to acquire this technology?

Below are the reasons why CCMG decided to implement EMR:

- Improve operational efficiency and provide high-quality care
- Digital Transformation to make information accessible and hard to lose
- HCP's access information from home and office alike
- An effective way to feed in information and access updated records seamlessly
- Access patients' medical history and track outcomes leading to efficient chronic disease management
- To reduce cost while improving the quality of care simultaneously
- According to HIPAA (Health Insurance Portability and Accountability Act), providers have to remember patient's history while out of the office.
- To avoid files running off shelves, phone calls not returned, paper getting lost under the desk, etc.

What aspects of the implementation went well, and what are some aspects of the rollout of the new system they could have improved?

CCMG's philosophy was that primary care was the crucial factor of an effective health delivery system. They focused on primary care since evidence suggested that primary care improved population health and the overall performance of the health system. Before EHR, the systems were mainly paper-based, and its computer system was limited to individual desktops. Some providers spent all their time in the community, shuttling between nursing homes and patient homes, because providers were on the go so much, they did not always have access to their patient's paper charts. If a specialist or family member called to discuss a patient, the provider would need to wait to view the chart or try to recall the patient's condition from memory. So, giving them tablet computers with EHR would make their lives easier and improve the quality of patient care. Also, it can provide 24-hour service with information being available anywhere anytime as required.

Aspects of the implementation that went well:

- In the Front desk, the receptionist had to fill out up to five different forms when checking in a patient, so after implementing EHR, that was not the case, as everything was put up in the tablet. The functionalities of EHR were designed in such a way that it made sure to preserve the patient safety imperatives built into the old ones.
- The file clerk, whose sole job was to pull and file charts, which was a tedious job now had become a scanning clerk, whose job was to scan the necessary documents and update it in the EHR.

- The administrative assistant who formerly had transcribed dictation now took on administrative responsibilities such as payroll because the browse and drop-down menus of the EHR reduced the need for dictation. Such changes in job responsibilities led to more productivity in the company by not spending much money on hiring new workforce.
- The office managers and clinicians worked together to ascertain how the telephone operators and receptionists could best help providers with any issues they might face while managing the patients.
- The charts that were found missing, papers that were seen in the provider's desk, and phone calls that were not returned sometimes, all the above issues were solved after the implementation of the EHR, and this indeed increased the operational efficiency.
- After CCMG went live initially with the practice management piece of EHR, the providers could take visiting notes in the EHR, could perform electronic prescribing and lab orders successfully. In addition to this, all the documents were scanned, e-filed in the EHR, and delivered to providers electronically.
- The leadership's original vision to set up remote internet access in long-term care facilities where providers would bring their tablets to facilities connected to the internet and use eClinicalWorks for notes, prescribing, and billing just like they work in the office did work in few of the facilities successfully, this made work easier for the providers as compared to before EHR since the work of papers was completely eliminated by this process and not had to worry about any paper/charts getting messed up.

Aspects of the implementation that could have improved:

- Some physicians complained that the focus on the computer system interfered with their ability to communicate with patients, this could have been improved by giving some initial first-hand training to the physicians about the system so that they would have come to know how to handle the system better in the community as well in the office.
- Although the idea of remote internet access in a few facilities worked reliably, in the case of nursing homes, and other places, it is not always possible that there would be good internet access. The lack of internet connectivity led to frustration amongst the providers, and they had to take notes on paper, and later enter the information in the EHR, so CCMG should focus on installing good wireless which would support applications such as eCW.
- Physicians had to input all the data which took 4 hours instead of 1.5 hours because of the system being slow and not being robust. Although the system was very intuitive and had lots of color, which made CCMG to go for eCW, it is a basic software, it has to be updated so that physicians can easily prescribe medications, and take visit notes as quickly as possible.
- The system was so basic that the physicians had to take handwritten notes, see the patients then go home and type the notes due to lack of internet and connectivity, and other software issues. This made physicians work for a longer time than before which made them exhausted. The software should be updated regularly, and the hardware connectivity should be inspected at regular intervals so as to avoid such issues.

- The data server used to be down every day from 12:00 midnight to 6:00 a.m., because of which the doctors who had night shifts didn't have access to the patient's records during this time. Those physicians who thought EHR would be beneficial for them ended up getting upset. The data should be made available to doctors at any time of the day, This again can be solved by rectifying the hardware, and internet connectivity issues, also A shared folder should be created where the patient's data is stored so that doctors can access in case of such data server issues.
- There were many software interface issues observed while transferring information between CCMG and other organizations/entities like laboratories, pharmacies, where it would refer patients for specialist visits, None could prove to be a simple setup, this issue can be improved by setting up functionalities in the software. In a single-click functionality, the information should be shared between different entities.
- The goal of chart migration was to eliminate the need for the paper chart the next time a patient was seen, and shelves in the offices should be kept vacant, but the chart abstraction turned out to be an extremely time-consuming process for the physicians, they had to enter each and every information into the EHR. Either the chart migration functionality should be removed for a temporary period and could be implemented again as and when the EHR system gets developed properly, else some of the information of the patients should be maintained or recorded in the EHR so that the physicians don't have to enter each and every information.
- eCW returned an error every time someone tried to run a report on patients with a certain chronic condition, and so disease registries were not being created properly, disease registries form the basis of any EHR, so it is especially important to resolve this issue.
- Moreover, in case of drug interactions, unwanted alerts used to pop up even when it was not required, so these alerts were turned off, rather the functionality should be designed in such a way that it gives alerts only when required.

In what way was CCMG well-positioned to be an early adopter of this technology, and in what ways was CCMG poorly positioned to take on these challenges?

CCMG is well-positioned to be an early adopter of this technology

- CCMG's mission is to provide a lifetime of compassionate, continuous, high-quality primary care to patients.
- Forward-thinking leadership along with strong investment in research and development as well as a high focus on innovation. CCMG has forward-thinking leadership that recognizes the importance of technology in healthcare and is willing to invest in new systems and processes to improve patient care.
- High-quality patient care: CCMG has a reputation for providing high-quality patient care, and implementing an EHR system will further enhance the quality of care by allowing clinicians to access complete and up-to-date patient information.

- Strong and collaborative team: Providers volunteered to take extra responsibilities to help the practice make a smooth transition to EHR.

CCMG is poorly positioned to take on these challenges

Challenges

- Resistance to change: Some staff members were resistant to change, especially after they had been using the paper-based system for many years and were comfortable with it.
 - Physicians complained their focus was on the computer screen and not the patient anymore
 - Interfered with their ability to communicate with patients
 - EHR guided their thinking in a way that is not normal to their thinking
 - Trained to implement new technology is not the way they were trained in medical school
- Limited resources: CCMG may not have enough money or staff to devote to implementing the EHR system, making it difficult to fully reap the rewards of the technology.
- Data security: Given the growing risk of cyberattacks on healthcare companies, CCMG may have trouble protecting sensitive patient information and maintaining data security.
- Employee training: It may be difficult for CCMG to teach staff how to utilize the new EHR system and make sure they are completely capable of doing so in order to provide high-quality patient care.

If you were in charge of CCMG, what would be your next steps as leader of this organization?

- Implement a thorough training program: Place a thorough training program for the employees to make sure they are knowledgeable about the new EHR system and capable of providing high-quality patient care.
- Develop a data migration strategy: To guarantee that all pertinent patient data is transferred to the new EHR system and that the data is correct and up-to-date
- Foster a culture of continuous improvement: Encourage staff to offer feedback and suggestions on how to enhance the EHR system and the entire healthcare delivery process in order to promote a culture of continuous development.
- Monitor system performance: Keep an eye on the EHR system's performance to make sure it is operating at its best and to quickly address any faults or difficulties that may arise.
- Utilize technology to improve patient care: Utilize technology, such as telehealth and patient portals, to improve patient care and increase patient engagement.
- Avoid a phased approach to the implementation of new technologies as CCMG had done, instead going with the “load testing approach”. That’s why it’s important to gradually

adapt to the new system and allow doctors and physicians to overcome the resistance to new technologies.

- Create a realistic training plan since time is one of the most important factors that prevent them from acquiring new technology.
- Making them feel more accountable and take a higher level of responsibility would be also an ideal way to overcome this self-esteem issue among doctors.