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CASE REPORT

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Considerations for EHR section for the surgical specialist: Insights from a case study

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Abstract

Context: *Surgical specialists have unique considerations when selecting and using electronic health records (EHRs).*

Aim: *We sought to identify key factors and considerations during system selection and implementation for the surgical subspecialist.*

Case study: *Insights from system selection and implementation for a start-up plastic surgery private practice were used to inform a broader set of principles for surgical subspecialists in private practice selecting and using EHRs.*

What can be learned: The nature of the provider-patient relationship is episodic and such as maintaining inventory, managing images, annotating images, documenting and billing in-office procedures, and integration of cash-based and insurance payment.

Conclusion: *Surgeons in private practice and as part of larger institutions can use insights from this case study to inform their own efforts in system selection and optimization for ongoing use.*

Keywords: *health information systems, electronic health records, organization and administration, medical record, practice management*

Introduction

Electronic Health Record (EHR) uptake and use has increased across settings and specialties. As EHRs have developed and matured, their uses have also changed. EHRs are used in different ways in medical practice including documentation, decision support, communication and integration with practice management and administrative functions [1]. The ways in which EHRs serve as a communication device between providers and staff, a repository of clinical information and an administrative tool differ across provider types. Primary care provider practices are characterized by long-standing relationships where providers see patients for years. In contrast, surgical specialties are characterized by shorter, more intensive bursts of care in which patients see providers on a frequent basis for a short period of time. Differences in the nature of the patient care relationship translate into EHR requirements and uses.

Many EHRs were developed and optimized in response to Meaningful Use EHR Incentive Program [2]. One of the objectives of this program was to increase EHR uptake and information exchange across providers, particularly primary care providers. Uptake has largely increased in physician offices due in part to these efforts (CMS). In response to demand, many EHR vendors developed their systems with qualification for incentive payments in mind, which are geared towards the primary care provider. Thus, many commercially available EHRs are aimed at the adult primary care provider and less so for the specialty provider, in particular the surgical subspecialist.

Those in specialty practice, particularly surgical subspecialties, have specific needs which may not be met by EHRs designed to meet the needs of the primary care provider [3-7]. In addition, they provide care for a particular problem and may not be involved in the bulk of a patient's care, particularly for those with chronic conditions. Thus, it is important to identify end user needs and priorities for the surgical specialist [8]. This study reports on system selection efforts for a start-up solo plastic surgery private practice in Charlotte, NC. Insights from this experience can inform future efforts for technology development, selection and use.

Case report

This case study is based on systems selection from a solo start-up plastic surgery practice. The plastic surgeon had previously held a faculty position and trained in several academic institutions and thus was familiar with several of the most common commercially-available systems. Insights from system selection were documented and analyzed upon selection. Documentation was reviewed and themes extracted from the first author, with input from the second.

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What can be learned from this case?

There were several priorities found to be of particular interest for surgical subspecialty practice. First was identification of practice characteristics relevant for system selection. This was followed by identification of EHR requirements, selection considerations

Practice characteristics

An important step is to identify the context in which practice occurs. The context influences uses of EHRs and resulting data. Factors to consider regarding end-users include number of providers in the practice, ancillary providers, how medi-spa and other related services will be documented, hospital affiliations, billing and practice management staffing and other memberships. Factors to consider related to service provision include the range of services, payment models (insurance versus self-pay) and whether or not the practice will bill insurance directly. Identifying practice characteristics is relevant to identifying a core set of user needs and services.

Identification of key EHR requirements

Practice characteristics inform key EHR requirements. However, there are some features of surgical subspecialty practice which have common requirements. Many surgeons see patients in the outpatient setting yet operate in the inpatient setting. This type of patient care across setting means that the EHR needs to accommodate coordination of multiple resources (e.g., surgeon time and operating room time) and integration of clinical notes and physician orders across settings.

Whether or not insurance is accepted, the EHR must be able to accommodate billing and a variety of payment arrangements, including ongoing payment for services. In addition, practice management functionality such as inventory management and tracking sales of ancillary services is of particular import for the plastic surgeon. Given the importance of pictures in surgical specialties with an aesthetic component, photo capability including annotating photographs is a critical piece of functionality.

Because surgical care is episodic, the EHR must be able to accommodate information sharing back to the primary care provider without disrupting the primary care provider's plans. For example, with medication reconciliation, the surgeon may have temporarily stopped orders for certain medications such as blood thinners. However, if the intent was to stop those medications for a particular period of time then a time-stamp or mechanism to communicate to the primary care provider that this is temporary would enhance coordination.

Selection considerations

When selecting the EHR it is important to identify the set of EHR requirements that are the most important to the end users. In addition, systems must be able to accommodate the practice type. A system for a hospital system may be different from that for a solo practitioner. During vendor demonstrations, viewing how the key pieces of functionality work and any necessary workarounds is a critical consideration.

During vendor demonstrations, multiple members of the team should attend and pay particular attention to different pieces of functionality and workflow. Because team members have different perspectives and roles, their ideas about workflow are crucial. After the demonstrations, team members may have different perspectives about system usability, functionality and customizability. Pricing and clarifying start-up and ongoing requirements for the system is another key consideration for selection. Pricing includes the system itself, any necessary infrastructure and ongoing support. In addition, there may be other costs such as training, and additional tracking and monitoring to clarify.

Implementation considerations

Implementation considerations include identifying clear roles and responsibilities and allocating resources for implementation and use. Roles and responsibilities include a main point of contact for the vendor and a trainer for within the practice. Resources for implementation and use include training, data management and any documentation not addressed by the system.

Discussion and conclusion

Surgical subspecialists selecting and implementing systems have considerations that differ from that of other specialties. While each surgeon is different, the process of prioritizing functionality can help inform system selection. Plastic surgeons in single specialty, academic and multi-specialty practices can use the insights of this paper to inform their own efforts for system selection and use.

Future directions include developing a more thorough understanding of surgical subspecialty EHR requirements from plastic surgeons and ancillary staff members across settings. Then prioritization and consistent checklists and questions to guide system selection and use could be developed. This would be of use across settings to inform selection, updates, and customization.

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