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Hindered by our own Devices: *EHRs and Cardiology Device Integration*

How are you using devices to help manage the health of your patient population? Devices, such as an implantable cardioverter-defibrillator (ICD), are playing an increasingly critical role in delivering high-quality cardiac care. This is especially true in terms of how relevant clinical data is exchanged and how personalized management programs are developed for specific treatments.

With advances in technology and the pervasiveness of readily available patient data, the challenge many organizations now face is getting these devices to “talk” to each other and integrate with the electronic health record (EHR) system. Based on my experience working with cardiologists and a recent conversation with **David Scher, MD**, clinical associate professor at Penn State University College of Medicine, what follows are some insights about this challenge and the benefits cardiologists can expect when integrating their cardiology devices to the EHR.

The Benefits of Integrating Cardiology-specific Devices with the Core EHR

Cardiologists have numerous devices and tests at their disposal, whether it is an EKG, stress test, nuclear test, event monitors, or the like. The problem is that the clinical information resulting from these tests is all generated in different spots. As a result, your patients’ data exists in many formats and is stored in various silos. The benefit of true integration, Dr. Scher explained, “is to be able to look at data coming from all of these separate sources in one central location in a way that communicates a complete story” to guide a patient’s care. By integrating data within your EHR, you have access to vital information in a single place, and in real time. Having the ability to review a patient’s medical history, timeline of cardiac activity from a recently implanted pacemaker, and newly-entered emergency room notes alongside one another is vastly more efficient than toggling



between screens, machines, or some combination of electronic and paper outputs. While the initial effort to connect all of these devices may appear daunting, the efficiency and accuracy that can result from integrating separate systems warrants the effort.

What Critical Systems Should Providers Focus On?

While the specific answer likely varies across sub-specialties, “implantable devices are number one,” according to Dr. Scher. There are many platforms and vendors that now transmit discrete data from their devices to an EHR. However, this data should not just be available to physicians, as is the case with some devices and EHR systems.

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Instead, it should also be available to the patient via a portal. When we talk about true integration, patients are an essential part of the equation.

With that said, Dr. Scher noted that “having all of the data from these various devices organized in a central location should be the ultimate priority for healthcare providers and organizations.” Accessing patient information from a single location is crucial for improving efficiencies and developing a complete picture of a patient’s health and ideal program of care.

Organizational Challenges with Device Integration

Organizations often struggle with initiating integration with one device because a long line of additional devices often follow. This is particularly challenging when many of these devices are designed on technical platforms that do not necessarily work well together.

Some common challenges can often be mitigated by first tethering these devices to your core EHR. Even if multiple devices are unable to talk with each other, using the EHR as a hub for col-

lecting and storing relevant clinical data is a big step in the right direction. If certain devices cannot plug into the core EHR, organizations have the option of using a third-party platform to consolidate patient data. While this means the data is still separate from the core EHR, it drastically reduces the number of places that providers need to search for information.

Looking Into The Future

The incorporation of mobile and bedside cardiology technology into the EHR and the ability to give providers information on their “smart devices” in a direct, real-time fashion are just glimpses of what you can expect in the future.

Patient portals will also play a greater role in care delivery and population health management. When it comes to the future of cardiac care, and patient care in general, Dr. Scher said that cardiologists will see “robust and truly meaningful patient portals that allow for direct messaging with providers, retrieval of instructional and educational digital media content for patients and caregivers, and the inclusion of self-monitoring

data from new apps and inventive technologies.” As organizations amass more and more patient data, presenting this information in an integrated and meaningful way will also be an area of continued exploration and innovation.

Many specialty providers across the country are at their wit’s end with their EHR and the last thing they want to think about is introducing new devices and technology into the picture. However, regardless of whether you are part of an established system or an independent cardiology group, optimizing the interoperability of commonly used cardiology devices and integrating them with your organization’s EHR is essential as technology and care delivery continue to evolve. Waiting or failing to begin integrating devices with your EHR will not only hinder your organization’s efficiency, but may also compromise the quality of care you are able to provide to your patients. ■

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