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Interview with Dr. Jonathan Elion, CMO, Agfa HealthCare

Intreview

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In this issue's Industry Interview, we asked Dr. Jonathan Elion, the new CMO of AGFA Healthcare, about the challenges and opportunities of cardiology image management and what the future of imaging management looks like.

What do You Feel are the Biggest Challenges When Integrating Radiology, Cardiology and Other Information Management Systems into a Single, Manageable Architecture?

The "back end" portion of the architecture is not much of an issue today, assuming that sufficient storage, expansion capabilities, speed and reliability are in place. The real challenge comes in maintaining the differentiation at the workstation level. After all, the features and underlying workflow behind the design of a mammography reading station is not normally a good match for the cardiac catheterization laboratory. The image and information needs in each target areamust continue to be optimally addressed by their respective client workstations.

What is the Most Popular formof Data Storage that You See Your Customers Using in Cardiology Image Management Today?

Just a few years ago, my answer would have been host-attached RAID storage with online tape or DVD systems. This moved rapidly to Network Attached Storage (NAS) and, most recently, to Storage Area Networks (SAN) or NASheaded SAN. Most image management systems use high-speed disk for primary image access. While DVDs are use less frequently for primary storage and online review, they continue to have an extremely valuable role in disaster recovery and "downtime procedures". By this, I mean the ability to continue to function even in the event of catastrophic failures such as the loss of a hospital network.

Do You See a Trend Towards Keeping Larger Amounts of Images Online for Longer Periods of Time?

Absolutely! This is especially true as we see the cost of disk storage continuing to fall. A review of previous studies for the patient (even from several years ago) is often needed on an emergency basis, where a delay of even a few minutes is not acceptable.

What are the Key Security Requirements to Consider when Implementing a Cardiology Information System?

The security issues for Cardiology Information Systems are basically the same as for any Hospital Information System. There are a few special things worth noting, however. One of these is a warning about "Patient Synchronized Applications" (PSA). With PSA, two computer programs can synchronize so that they each present their respective information on the same patient. For example, if you are reviewing laboratory data results, you might want to start an image viewing application and have it start up by presenting the images on the same patient. While this sounds convenient, it actually makes it much more difficult to control and track access to patient information, as each programmust be assured to conform to access control policies.

A better approach is to have all access to patient information through a single program (often called a portal or Physician's Portal). Specialised viewing (such as fullmotion images) are best done as a "plugin" to the portal rather than as a separate program, thereby keeping all security and access control issues centralised into one program. Another important feature of security relates to the frequent need for information to care for a patient in an emergency situation. In this situation, the needs of security need to be balanced with the need for information access.

What are the Biggest Challenges when Adapting Cardiology Information Management Solutions for Different Medical Cultures Around the Globe?

I have found it more helpful to focus on the similarities, rather than the differences. The heart is pretty much the same throughout the world (although some would claim it is much warmer in many parts of Europe!). There are not significant regional differences in cardiovascular physiology or in the approaches to cardiac care. However, what I do find is differences in percentages. Let me explain by giving a few examples. In the U.S., it is common for an echocardiography technician (sonographer) to perform the imaging study, with the echocardiography physician involved only in reading the study. However, some U.S. cardiologists still handle the transducer and perform the study themselves. In many areas of Europe, these percentages are reversed, and it is more common for the physician to perform the study.

This doesn't introduce a new concept; it just reflects differences in what might be more common or less common practices. In the U.S., it is common for a Cardiologist to have several allied health professionals assisting in the gathering and recording of information (patient history, hemodynamic findings, etc.), whereas in other countries, there might be fewer people available for such data gathering and recording (or in some cases, only the physician performs this role). In some countries, dictation and transcription are common, in others, it is rarely available. Perhaps the one single greatest challenge that the industry has had to face is the need for multi-lingual capabilities of software within one institution.

What do You Feel are the Most Significant Challenges and Opportunities in Cardiology Information Management in the Coming Years?

The medical community is still learning how to use information for real-time decision support and for the improvement of its processes. The business community discovered "Business Process Re- Engineering" many decades ago, but healthcare is just now coming around to realising the importance of re-engineering its healthcare delivery processes. We need to continue to refine our ability to gather and store information that is coded based on international standards, and to analyse and use this information to continue to drive towards improving quality and controlling costs.

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