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## Connecting to a Win-Win?

**Image management systems can be particularly helpful to retinal physicians.**

**RENÉ LUTHE, SENIOR ASSOCIATE EDITOR**

In a medical-practice environment that includes a severe recession, declining reimbursements and worries about what coming healthcare reform will look like, the thought of spending a chunk of your practice's hard earned income on another gadget is probably not appealing. But consider this particular gadget: a system that can access and store all the data from disparate diagnostic devices and communicate with EMR systems. Not only do image management systems make a practice's life easier by having all the important information in one place, proponents say that they can increase productivity, thus allowing you to see more patients, facilitate patient education and even improve your ability to diagnosis disease/recognize changes in your patient's condition.

To find out if such systems are right you for, we asked a few early adopters how image management systems have affected their practices and what factors you should consider.

### WHAT CAN IT DO FOR YOU?

Image management systems integrate images and reports from all types of ophthalmic instruments into one secure digital environment via a Web browser from nearly any location. They integrate with existing IT environments and EMR systems. They enable physicians to view, organize, edit and transport information and images, and to rapidly see and compare images. Additionally, they save time and resources by eliminating the need for exam printouts.

You'll need to check with the various companies to learn the special features of their respective systems, but among the features they offer are:

Image system makers can offer a list of all the devices with which they are compatible.

- ▶ Ability to view full-size images from disparate devices side by side.
- ▶ Sort images according to categories such as left eye/right eye or the last two visit dates.
- ▶ Display both static and dynamic data, so you can view still images as well as video.
- ▶ Collect discrete data to be categorized.
- ▶ Graph the data historically to aid assessment of change over time.
- ▶ Variable image compression. Systems such as OIS's Symphony Web allow users to change the amount that your images are compressed as you are reviewing them, without affecting resolution.
- ▶ Seamless transfer of data to the EMR system.
- ▶ Ability to promptly accommodate the upgrades of diagnostic devices.
- ▶ One-time entry of patient demographic data to minimize mistakes and save time.

As for retrofitting older diagnostic devices to an image management system, Vincent R. Vann, MD, PhD, in private practice in Edinburg, Texas, cautions that might not go so smoothly. "You would need to have up-to-date software and all that, and so I don't know if they could accommodate, say, old visual field machines," explains Dr. Vann. "The newer machines have all the networking built in and all that, but the older ones don't."

Be sure to check with the imaging system's manufacturer first.

All these features allow physicians to spend considerably less time compiling data, proponents say. Image management

systems eliminate the need for doctors to spend time walking from the patient lane to the instrument and back to the patient, the wait for prints and time spent searching for images that should be in a patient's chart.

## **A SMOOTHER, MORE EFFICIENT PRACTICE**

Given the features listed above, it may come as no surprise that the benefit most cited by all the users *Retinal Physician* spoke with was greater practice efficiency.

According to some users, this ability to compare high-resolution images side by side on one screen helps make for faster, more accurate diagnoses. "You can see subtle changes," says iViews user David Dodwell, MD, in private practice in Springfield, IL. "You have the ability to compare images side-by-side without flipping through previous reports, so I do think you get a more accurate diagnosis in what you're looking at."

## **MORE PATIENTS, MORE REVENUE**

Paul Chace, of Chace and Associates, reports that most practices that have purchased his company's iViews system are smaller. "It actually makes more sense for these one and two-person practices to have it because they can increase their patient flow and revenue," he says.

## **MAKING HIGH VOLUME MORE MANAGEABLE**

"You can pull images off a Web site and use them anywhere in the hospital, as well as at satellite offices in private practices," says Odette M. Houghton, MD, assistant professor of ophthalmology and a vitreoretinal specialist at the University of North Carolina, who uses iViews imaging system. "What I like about this system is that it pulls up the images at once and then allows you to select the images you want to see without any time delay. And it is synchronized with all the imaging devices (the fundus camera, OCT machine and the visual field) so all of the images per patient can be accessed at one time using one program."

## **FACILITATING THE REFERRAL PROCESS**

Another way that the system improves efficiency, Dr. Houghton says, is in exportation of a photo for a presentation or to send a colleague via e-mail regarding a patient referral. The user has the option of including the patient identifying information or sending the images without that information to be HIPAA-compliant.

"The photos in the patient's chart can be exported from iViews in bulk quickly or you can export selected photos or selected groups of photos," Dr. Houghton says.

## **MORE EFFECTIVE PATIENT COMMUNICATIONS**

In addition to increasing efficiency, image management systems scored enthusiastic praise for enhancing patient education efforts. They make it much easier for patients to see for themselves how their conditions have deteriorated or improved.

Dr. Dodwell reports that he has access to iViews in each of his exam rooms and laser treatment rooms for the purpose of educating the patient. "We display the images on a 42-inch monitor, right next to the patient," he says. He then shows them their current images, as well as ones from the previous visit, or series of prior exams. "Patients can actually visualize their response to treatment. The physician or staff can place images from past visits side by side on the monitor. They catch on to this very quickly and they like to monitor their progress by looking at the history of their images and their response to therapy."

More effective patient communication generally results in improved compliance, Dr. Dodwell finds. The fact that patients can more easily see their eyes' response to therapy gets them more invested in treatment, he says. This greater personal investment can make patients more willing to keep returning to the practice for intravitreal injections, for example.

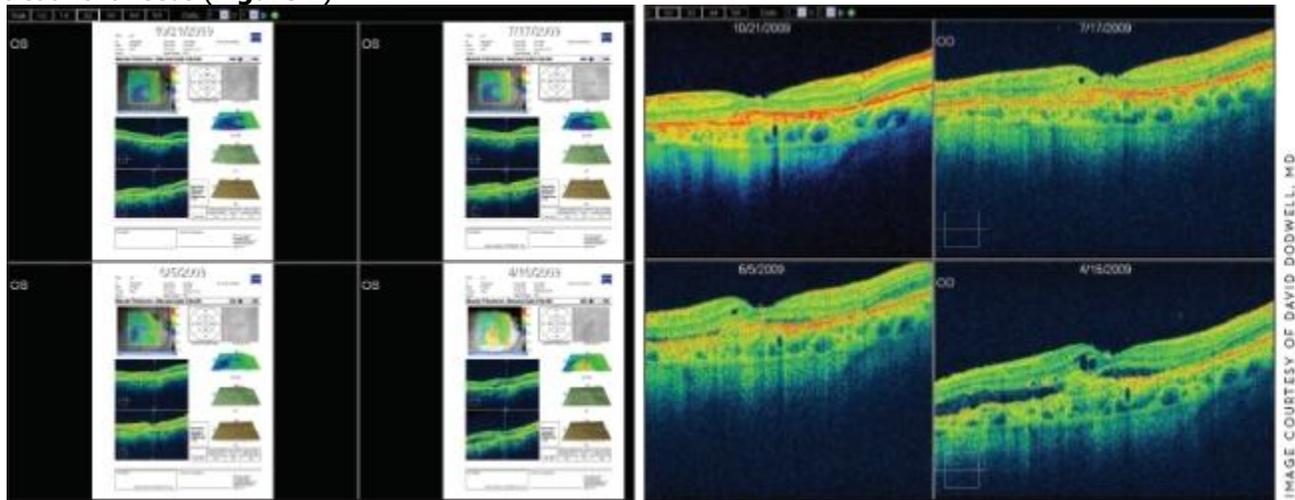
## A PLAN FOR EVERY PRACTICE

Manufacturers of imaging systems understand that a one-size-fits-all system will not work for most eye care practices. While the more comprehensive models are in the university hospitals and other large settings, makers also offer the flexibility to purchase a system that meets the needs of your particular practice.

Dr. Dodwell found the manufacturer for the image management system he chose very accommodating to his practice's needs.

"We wanted to pull out and capture the individual line scans without the whole report, and stack them side-by-side, so not only we could use them for comparisons, but our patients could too," he says.

The OCT report was another area in which Dr. Dodwell wanted to be able to create a specific kind of record to meet treatment needs (**Figure 1**).



**Figure 1. On the right, a complete OCT scan. On the left, a report featuring only the current and previous line raster scans, compiled with the iViews image management system.**

"In an OCT report, there are many sections of data that you don't necessarily need," he explains. "Often you rely specifically on raster line-scans, and you want to compare them to previously selected scans. And that's where I think the real power of this system comes in."

## WHAT YOU'LL NEED

Integrating an image archiving and connectivity system into your practice may be simpler than you think. All the manufacturers offer training for both clinicians and staff, but users say that most practices won't need to devote inordinately large chunks of time to training. The clinicians who are currently using these systems claim that they are largely intuitive.

"It's just a matter of getting used to the interface," Dr. Vann says. "I think just about anybody could learn it pretty quickly. There are some little nuances to it that aren't obvious until you start to play with it, then you realize, oh, I can do that this way and it's easier."

However, be sure to check on filesaver needs for each connectivity system. Some systems, such as the Forum, require a dedicated server. Others, such as the iViews, do not.

One thing you will almost certainly need is increased storage capacity on your server. "When you're collecting images, you have to anticipate storage needs," says Mr. Chace. He advises estimating storage needs for three-to five-year use. Typically, that is greater than what most practices have onsite. **RP**