

By Rainer Waedlich, MD (with OM staff)

EHR “must make it easier to do our jobs”

So says Matthias Maus, MD, the obvious EHR expert to be interviewed for this piece: By the time the Institute of Medicine had published its plea in 1997 (for what we now call an EHR) in every physician's office, the paperless work environment Dr. Maus created for his ophthalmic clinics was already 11 years old. Today, Dr. Maus, a German ophthalmologist-entrepreneur, owns three eye clinics in Germany and Vienna. He credits efficient data management, structured workflow processes and cross-center communications as cornerstones of his success.

Dr. Maus introduced that paperless work environment using an international EHR system working with IFA Systems; he helped start this publicly traded German EHR company and served as its board chair until July. He stepped down from this position to focus on the expansion of his centers under the brand “Sehkraft” (“eyesight”).

Rainer Waedlich, MD: With more than 25 years of experience, you are an expert for Health IT in eye care. Where do you see the most important benefits for using information technology in your clinics?

Matthias Maus, MD: Even 25 years ago I was convinced that digital systems are key for efficiency and quality in healthcare — especially in eye care. Our team developed customized applications for structured workflow management to handle refractive/ cataract/glaucoma cases, and electronic calendars for patient and staff scheduling.

When we started, a paperless clinic was not at all the standard in Germany. From day one, the system eased documentation, enhanced quality management and ensured certain standards of care were implemented and controlled. In addition, it saved time in search or with legibility. Structured data also enabled statistic analysis of medical outcomes, patient satisfaction, efficiency of resources and effectiveness of marketing campaigns.

RW: What do you mean by structured data?

MM: This is a big topic and one that is very important for clinicians and administrators to understand. A good analogy for structured vs. unstructured data is the difference between an

organized library and a mountain of books piled up without any system. Structured data allows data to be saved in a consistent manner, which improves speed and makes it possible to generate reports.

It is possible to store data without structure. The most extreme — and worst — example would be storing everything as text. Text storage makes it almost impossible to search and organize data, because different people might use different terms, spelling and abbreviations to store the same finding. Structured data normalizes how information is stored and usually indexes terms using numbered IDs. This opens up tremendous functionality for storage, retrieval, reporting, analysis and standardization.

Some EHR systems did not use structured data early on. Today, all the major EHR systems use structured data. It is essential.

RW: You said EHR creates efficiencies. Doesn't EHR actually slow down your clinic?

MM: No! Quite the opposite. Well-designed EHR systems organize processes into workflows. These workflows anticipate the sequences and processes. All our devices — phoropters, topographers, aberrometers, lasers and so on — are integrated into the EHR

OPERATING SYSTEM
REPORT AND REPORT INFORMATION

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system. So, once the examiner clicks “save,” the data are transferred to the record and are available at the next station in the process. When it comes time for surgery, I can see all the exams in one place and automatically transfer the treatment to the laser. This saves a great deal of time and largely eliminates the potential for human error.

Our billing system is similarly integrated, of course, so those processes become automated. Also, we can follow how much time each step is taking along the way and streamline the process.

RW: Where and how did you experience the challenges?

MM: When we started it was rather easy to organize our eye care office for me and five staff members. Today we are 12 doctors and over 60 staff members — this changed the organizational and clinical requirements drastically. We needed to change and adapt our digital workflows continuously, and we needed to add more structured data items to our electronic health record systems to capture crucial pieces of information. Such additional items include documentation of patient communication and education, picklists for lens types, and the chronological order of diagnostics for each examination type.

We moved from an “everybody can work at every position” management style to dedicated cataract and refractive teams each with their own rules and procedures. Those rules and procedures were implemented in our system, and now enable even members from a different team to treat the patient consistently and without any reduction in quality.

We integrated an internal communication toolkit to manage projects, share calendars, and host all our rules and procedures for training and quality management. The tool, medikit, is cloud-based and is accessible from smartphones and workstations. The tool greatly enhances our ability to identify bottlenecks and manage suggestions and improvements.

We evaluate patient feedback using electronic questionnaires which measure perceptions of outcomes and experiences — from wait times to staff interactions.

We follow the principles of continued improvements, such as Kaizen. In monthly team meetings, we review our statistics, complaints, and suggestions, and we make small improvement steps continuously. Change management is much smoother this way as changes can be easily implemented into the software and are accessible to every staff member instantly.

RW: What are the critical criteria for selecting the tools you are using?

MM: Our information technology infrastructure is very flex-

Continued on page 57

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HOW CAN I GET THERE?

First, find the medical world where the only approach is the philosophy. I have served on the boards for History International, The Colburn Center for research and physically-challenged children and adults, Operation Goodthrough for the children of American families, The ILL of Life for organ donation and donated organs, The Thomas Memorial Foundation for organ donation, and several foundations for art and.

I have been a director of

operations, major projects and public relations.

I understand operations, public relations, and business development. I have a wide range of experience in public relations, and I have the sense of mission. I know that I am personally committed and dedicated to my work. I understand, but I know that there are many ways to make a difference, and this is the philosophy.

For example, I was drafted to lead the new city and was drafted to the new system. By working with the state, American Health Association and Academy of Pediatrics, I was able to get the state supply distributed to every part of the state. I was able to get the state supply and health care distributed to every part of the state.

very to help and think the financial situation here.

LAST YEAR I WAS AWAY FROM

The most important variable that we have ever had with our health, safety, security, energy and operations, and it is so easy to understand. I understand how to make it. I understand how to make it. I understand how to make it. I understand how to make it.

Finally, make sure that you are able to plan your future, locally, nationally and globally. Have a budget of your own.

Remember that we are the future of the world.

EHR continued from page 36

ible and any customizations are easy and efficient. For example, when we are investing in new diagnostic or therapy technologies, we can create the new workflow profiles in 30 minutes — totally independent from the software provider or any external services. As an example, we integrated the new 2RT Laser from Ellex to treat early AMD (a completely new procedure for us) within only one week including procedures and rules, quality management, calendar slots, structured data, and macros. All changes are then included in our staff training and education.

One especially valuable part of our EMR system is its ability to connect all diagnostics tools — including automatic phoropter, topography, the most sophisticated OCT — to our network. This connectivity permits access to every measurement from all workstations. We save time, we can dig deeper into diagnostics, and we are able to educate our patients in a much better way. We also communicate within and among the various offices with ease and speed.

RW: What is your advice for your colleagues?

MM: Workflow, quality management, and the underlying information technology are substantial tasks for leadership. Successful ophthalmologists should understand the principles of professional health IT, like structured data, statistics and well structured input. All those items impact patient satisfaction, efficiency, productivity, quality of care and legal compliance of the clinical pathways — especially in the area of surgery.

In larger offices, better resource scheduling saves costs, avoids the typical rush hour effects, and results in a more profitable business. Of course, the IT partner is also an important factor for success in this context. The software provider should be specialized in ophthalmology and follow international standards. This protects your investment and is the basis for long-term efficiency. Ophthalmologists who do not understand and implement these rules will lose patients sooner or later due to the difference in perceived quality. **om**