Use of the electronic dental record (EDR) is nothing new in my suburban practice. We've seen a dramatic but systematic evolution in computer technology and its functionality for health care since I started in dentistry 20 years ago. As an early-adopter dental practice, our entrance into technology was simply a stand-alone computer at the front desk that performed rudimentary billing and scheduling tasks.

This very basic “baby step” was instrumental in the technology and practice management developments that improved my practice in the ensuing years. Our first system accomplished one important task — creation of an electronic patient database based on basic information (patient name, address, phone number, etc.) gleaned from our stacks of paper charts. In fact, most of those original keystrokes, entered by my office manager’s mother-in-law (because she was out of work at the time and my manager was too busy filing paper charts and writing account receipts) are still present today in my current EDR database.
As technology increased in sophistication, our initial use of the EDR blossomed into what is now a fully paperless, digitally integrated operation. We are now running a small business network with workstations in all of the treatment rooms, front office, and back office. Although our front desk still has a computer behind it, the stacks of paper charts are gone. In the past, stacks of patient charts were a sure sign of a bustling practice. Today, the same stacks represent inefficiency and a greater potential for errors versus the EDR. The contemporary front-desk workstation also enhances the patient experience far beyond what its predecessor once did.

Our patients notice and appreciate the efficient, comprehensive, and accurate interactions they receive throughout each encounter in the office. We contact our patients for appointment confirmation or treatment follow-up through email, text, or phone — whichever they prefer. In addition to the mundane tasks of filling in slots on a scheduler and keeping track of billable transactions, our receptionist now has the ability to capture patient portraits through the use of an inexpensive webcam, capture patient signatures in digital “ink,” automatically process credit card payments with a quick card swipe, print out pre-entered insurance claim forms, and electronically submit the forms directly through the web.

Although all of these functions streamline front-desk activities, the greatest advantage in technology for the receptionist is in the accuracy of patient checkout. One of the most error-laden tasks shared between the clinical staff and the receptionist is the relaying of what “the patient had done back there in the operatory,” and what should or should not be charged for that visit.

The use of an electronic router between the clinical workstation and the front desk makes this a seamless task in which the clinical staff inputs the performed procedures into the EDR. Then the receptionist can easily interpret the clinical encounter for payment processing. This generally occurs without one spoken or written word between staff members and is accurate and efficient. Automation of all of these front-desk elements allows for those employees who are the first and last human contact during a patient visit to concentrate on what is ultimately important from non-clinical staff... namely, building community between patients and our practice.

The most difficult step in the adoption of the EDR was the commitment to integrate all chart information into digital format. Although this was a daunting transition, transferring our patients’ clinical data into an EDR was significant in terms of efficiency and accuracy of the workflow in the office. EDR clinical data was entered one patient at a time, primarily during recall visits. At that time, baseline data was input into EDR software designed to capture all aspects of the paper chart in electronic form, including (but not limited to) comprehensive hard- and soft-tissue charting, progress notes, treatment planning, medical history, prescription history, referral history, digital radiography, and digital clinical photography.

Client maintenance, consultation, and treatment after initial charting are also in EDR form. We record changes to oral conditions, completed treatment, and planned treatment that we can automatically display in a color-coded graphical display for both hard and soft tissue. After the transition to EDR, it became possible to have an up-to-the-minute graphic display of history, current findings, and future work at a glance. The advantages seen with the addition of clinical EDR data is that there becomes a deliberate and unifying link between procedures performed, clinical recordkeeping, scheduling, and billing for each patient.

For example, if during a recall examination we determine a tooth needs a crown, we enter this finding into the EDR. Doing so triggers a series of sequential alterations to the EDR that lead to the completion of all clinical and administrative support surrounding the treatment — i.e., predetermination of insurance benefits and appointment-scheduling is performed electronically, a confirmation is sent by email, the procedure is performed, the lab case is tracked, progress notes are added to the EDR, the insurance and patient are billed, and payment is received via electronic funds transfer. A similar course of events is managed through our EDR database hundreds of times each month.

I am often asked what the return on investment is for this technology. The positive return of using EDR is real, but difficult to measure. The answer seems to lie in rhetoric such as, “How many cases would have been mismanaged if a robust EDR system was not employed?” or “How many customers would have been lost through inefficiency or inaccuracy of care from discontinuous paper recordkeeping?” Furthermore, we feel that our average patient expects this technology in our practice. They get and like technology in a dental practice, so there is a direct correlation to patient satisfaction. EDR technologies have contributed to our two-decade track record of managing patients at the highest level.

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