Online patient communications

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Most orthodontists I know want happy patients and staff. This article is about how I, and scores of my colleagues, have used Internet communication technologies to help us satisfy our patients and reduce the stress on our staff.

Communication is a mission-critical activity in orthodontics. We are not just engineering tooth movement; first and foremost, we are managing relationships. In a busy orthodontic practice, hundreds of communications take place every day: between doctor and patients, staff and patients, staff and responsible parties, and doctor and other professionals. Today's "empowered" patients expect information about every aspect of their treatment, from clinical and appointment information to financial and insurance information. And today's practice, becoming ever busier as a result of demographic trends, must be able to efficiently handle all of this information flow.

About 20 years ago, computerization of the orthodontic office with specialized practice management software (PMS) made it possible to maintain the personal and financial records of many patients much more efficiently. About 10 years ago, digital imaging started to produce efficiency gains. Now we're actually using systems that treat patients digitally.

These technologies are designed to allow the doctor to manage information in digital form. Information in digital form is power: it is portable, transferable, and convertible. The information we collect about our patients is an invaluable asset. When that information is digital, we can store, manipulate, transmit, and convert it as we choose.

Fairly primitive data conversion has been going on for years in our industry. If you have ever switched from 1 PMS program to another, you might have had your data converted—probably with many headaches and possibly with much reentering of data. When I purchased Orthotrac (Practiceworks, Atlanta, Ga) PMS for my office in 1994, I would have loved to have my old data converted but ended up entering everything by hand. I followed up with digital imaging several years later and took other measures to modernize my practice as well: a complete remodel with new equipment and a new computer network.

But there was still a glaringly obvious efficiency gap in my operations: when my patients needed simple answers, they had to call my office. As in most practices, our phones are not answered evenings, weekends, and during lunch hours. Usually, patients just asked "when's my next appointment," "what has my insurance paid?" or "how did you split that credit card payment between my 2 kids?" All the answers were in my existing PMS database, and some of my front-office staff were spending much of their time fielding phone calls from patients, looking up information that was stored in that database. Historically, we orthodontists seemed resigned to hiring more receptionists and letting our patients get used to calling during the 7 or 8 hours a day the office was open and being put on hold. That was the way we'd always done things.

It didn't make sense. It was 1999. I knew that most of my patients had e-mail and regularly used the Internet. The Internet had already changed the way I managed my personal life. I traded stocks online, corresponded with my extended family online, went online for professional research, and, of course, shopped online. The Internet was saving me time in many ways. I wanted it to save time for my staff and patients, too.

I had a nice Web site, but it just sat there—another pretty marketing brochure that happened to be on the Internet. My site got several dozen hits a month; I learned this is typical of orthodontic Web sites. People might go there once, but they didn't return because there was no reason to—the site was static. I wanted my Web site to deliver *answers* to my patients. I teamed with a software company to create a system that would save my staff time and make it more convenient for my patients to obtain needed information any time of day without a phone call to us.

HOW IT WORKS

Other orthodontists liked my idea, and it turned into its own company, PT Interactive, Inc. We hired 15

In private practice.
Dr Povolny and his wife have financial interests in PT Interactive, which invented the technology referred to in this article.
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programmers and built the online patient communications application service provider (ASP): a service that provides remote access to an application program across a network protocol (typically HTTP), called Ortho Sesame (PT Interactive Tukwila, Wash), now used by orthodontists nationwide. This ASP abstracts data from existing PMS databases and comprehensively manages office-patient communications through the Internet. Here are some of the ways the system communicates with patients:

- Patients walk into my office and see a computer screen inviting them to register their e-mail address to receive reminders. They enter their e-addresses themselves, including additional addresses for the rest of their family. Ortho Sesame issues each patient a unique, randomly generated password.
- Patients log onto my Web site to view their appointments and detailed account information with the password that lets them into *only* their own family's information. They are not logging into my office network; the ledgers they see are presented on secure servers on the Internet, with selected information from my Orthotrac database. They cannot see data error corrections or any other internal notes made by my staff. They see only what they need to know.
- Patients who are behind on their accounts can click through to a form to charge their outstanding balances to a credit card.
- Ortho Sesame sends e-mail reminders to patients who are scheduled to see me in 2 days. Every night the system sends e-mails to patients (about 70% of them) who have entered their e-mail addresses in the system to confirm their appointments. These are personalized messages with the patient's name and appointment time that come from my e-mail address, but, in reality, neither my staff nor I send any e-mails. This is all part of the ASP's function to process our schedule every night.
- On the first of each month, the system automatically sends e-mails to patients on my recall list, reminding them to make an appointment.
- On their birthdays, kids in my practice receive electronic birthday cards from me that have the right number of candles on the birthday cake.

Now for the technical explanation of how all of these communications happen: The Ortho Sesame software is installed on its own PC on my network. It operates self-sufficiently, copying data automatically from my database with no additional work for my office staff. All day, my front-office staff inputs information into Orthotrac—ie, appointments scheduled and rescheduled, responsible party payments, and insurance payments posted—and each night Ortho Sesame *converts this data* for Internet communications with patients.

The program launches automatically during the night when my office is closed. It uses open database connectivity to access my data, locates my Internet connection (mine happens to be DSL; dial-up connections also work fine), and then sends the encrypted data to secure Internet servers, where my data are stored in a database separate from every other doctor's data. When authorized viewers (eg, patients with passwords) request their information, it is delivered to them by cgi

scripts with a secure https connection. The ASP manages my patients' data (and that of tens of thousands of other orthodontic patients) on secure Internet servers with Verisign-certified 128-bit SSL protection—the same security measures banks use.

The system uses the data that my staff puts into Orthotrac, but it runs independently from Orthotrac on a separate PC. It does not interact with my active Orthotrac database but, rather, makes a copy of the database nightly; this provides the added comfort of an off-site backup of my patients' financial and appointment information.

RESULTS

My colleagues and I who have taken our patient communications online in the last few years have seen significant positive results in fewer no-shows, increased staff efficiency, and enhanced patient satisfaction with our customer service. I use the Reminder Pro automated telephone reminders program from July Soft (Tucson, Ariz). (Many Ortho Sesame subscribers use HouseCalls (from Televox [Mobile, Ala] or PowerCalls from Tel-A-Patient [Costa Mesa, Calif].) Even though all my patients have telephones, the telephone reminders don't always reach them; with the addition of e-mail reminders, missed appointments are almost eliminated. Because my patients choose to register their e-mail addresses for the service, they're invested in using it. We used to have 4 or 5 no-shows a day. Now on many days, there are none. Another way that e-mail reminders have helped to eliminate no-shows is that, by giving patients their appointment reminder 48 hours in advance, they can notify us in time for us to schedule other patients if they cannot come in.

In November 2001, my patients logged onto my site to check their appointment and account information 253 times. That's about 17 calls a day my staff didn't have to answer. Eliminating a third of the incoming calls makes a big difference. Many of these calls involve questions about insurance or payment history that would have required my financial coordinator to print out and fax ledgers. Patients can see at a glance what takes much longer to explain in a phone call. Because my patients get their answers online, we're saving over 500 hours a year just in front-office staff time.

For an online system to be effective at eliminating phone calls to the office, it must show patients the answers to all their questions. For example, at tax time, or when patients are planning flex spending, they need to know exactly how much each responsible party has paid on multiple children's accounts, and how much they will owe in the next fiscal year. So it was a priority for me in developing this system to be sure that the patients see screens that are clear and contain all relevant information.

Patients appreciate the convenience our interactive Web site gives them. Many have told me that they pay bills or do financial planning at odd hours of the day or night, and it helps them to be able to get their questions answered online. In this day and age, people expect to obtain information online, and it certainly enhances my practice's image to give them answers during the night. New patients learn of my practice when current patients talk about our online services. The system is very popular with patients.

Because I now have at my fingertips powerful custom e-mail tools for reaching hundreds of my patients at once, or specific segments of my patient list, I communicate more frequently with them than I ever could before. My clinic coordinator uses our Ortho Sesame database to send e-mails to patients who need extra encouragement or to compliment them and let their parents know they're doing well. Once every 6 weeks or so, my staff changes the custom message in our appointment reminders. In addition to confirming appointments, these e-mails let patients know about our office contests, Halloween skating party, and holiday toy drive. We use the custom mail features to send periodic news and announcements to all patients who have registered their e-mail addresses in our database.

For example, on September 14, 2001, I typed a single e-mail expressing my grief and shock at the attacks and my belief in the goodness and strength of our nation. I hit "send," and it was delivered to more than 700 of my patients. The next day, my inbox was filled with e-mails from patients expressing solidarity. These custom e-mail communications are simple and effective. There are no printing costs, no staff time to affix labels, and no postage.

Through several alliances with other companies, we have expanded the services provided by Ortho Sesame to include treatment information. My Invisalign (Align Technology, Santa Clara, Calif) patients can now access animations of their actual treatment on my Web site, and my case presentations are created with OrthoMation Online (Raintree Essex, Metairie, La) so that parents who usually can't come to examinations can see case presentations at home by logging on to my Web site. These tools help my conversion rates and result in generally happier patients because they understand and are more involved in their treatment.

We are continuing to add functionality to improve the orthodontic office's operations on both the administrative and the clinical sides. Among other things, we plan to keep patients informed about their treatment

progress. We will show them their X-rays and discuss these online with general dentists and other specialists. E-mailing statements will also be a tremendous time saver for the staff.

CHALLENGES OF ONLINE COMMUNICATIONS

In the process of developing this PMS database Web integrator, we've learned much about automating and enhancing the information exchange between patients and providers. There are many reasons why online patient communications have emerged as a specific area of expertise rather than as a service of the PMS companies.

Managing patient relationships online requires a different focus and a very different technology set than PMS products. We all use Microsoft's Windows operating system, but, in certain areas, such as financial management software and media player software, other companies have created "best of class" products because they focus on a specific problem. Companies like Intuit and Real Networks have developed expertise in managing and presenting digital data for specific purposes, data that originates elsewhere. The PMS companies have unquestioned expertise for in-office databases. Currently, these data are hidden away in local databases that are specific to each PMS company. They are not online or easily accessible by the doctor. A way was needed for a doctor who owns any existing PMS to present data to patients in a way that streamlines a busy practice's functions, and we have focused on technology to do exactly that. After all, the data belong to us, the doctors, and digitization of the orthodontic office puts information into a universal language that allows us to use it in new ways.

A fundamental problem unique to OPC is maintaining an e-mail database: Effective online communications with patients require collecting and keeping current a database of patients' e-mail addresses. We found through trial and error with dozens of orthodontic offices that it rarely works to have the front-office staff collect e-mail addresses and enter them into a database where this information is "office-bound." The system we built maintains up-to-date databases with e-mail addresses for tens of thousands of patients. Before this, an orthodontist seldom collected e-mail addresses from patients.

Here are some other problems that had to be solved to create a successful online patient communication system that uses e-mail:

1. Many practice management software systems don't have dedicated e-mail fields.
2. People choose odd combinations of letters and numbers for their addresses, so data entry often produces errors that make these addresses unusable.
3. People change their e-mail addresses frequently—sometimes several times in a single year. An e-mail address database requires constant upkeep.
4. Manually entering e-mail addresses for hundreds or thousands of active patients into the computer system is a big task that adds extra work for the front office. We found that it just didn't get done.

The practical way to manage the e-mail address database for a practice is for patients to enter their own e-mail addresses into the system and manage them online, much like an account at amazon.com, Travelocity.com, or another online service. So we integrated the patient-entered e-mail addresses in our office with Web-based ASP e-mail management. Passwords are managed similarly. Thus, patients never call my office asking about their passwords, and my staff never enters e-mail addresses. Patients can change the passwords from Ortho Sesame to something easier to remember, and if they ever forget their passwords, they click "Send me my password," and the system will e-mail it.

SUMMARY

More and more orthodontists are using the Internet in their offices, aided by increasing familiarity with the Internet and the significant increase in DSL and other broadband connections. The number of orthodontists creating Web sites is also growing. We've taken the next step: doctors use the digital pipeline we now have into our patients' homes to streamline patient communication. I'm confident that we have only begun to see how integrating formerly isolated networks will transform our practices.

The use of technology in the orthodontic practice will be reported under this section of the American Journal of Orthodontics and Dentofacial Orthopedics. *Manuscripts, comments, and reprint requests, unless otherwise noted, may be submitted to Dr David L. Turpin, University of Washington, Department of Orthodontics, D-569, HSC Box 357446, Seattle, WA 98195-7446.*