

The internet has revolutionized patient care and practice

February 25, 2009

By Katie Kalvaitis

<http://www.endocrinetoday.com/print.aspx?rid=37358>

When a patient presented with a thyroid mass that turned out to be thyroid lymphoma upon further examination, Thomas Repas, DO, FACP, FACE, CDE, turned to the internet. Within 20 minutes, a simple search revealed an extensive list of reliable, published articles on the rare disease.

“The internet has really revolutionized medical care. It wasn’t too long ago when we were without these opportunities,” Repas, a clinical endocrinologist in Rapid City, S.D., told Endocrine Today.

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A November 2008 survey by Epocrates, a provider of clinical information and decision support tools for health care professionals, revealed that physicians are accessing online clinical resources more than ever. Seventy percent of the 501 physicians surveyed reported going online for clinical information at least once a day, and 20% of those reported using web-based resources five or more times a

day (see charts).

“It has totally enhanced the way we practice. Most physicians I know are wedded to it,” said Carl Pepine, MD, chief of the division of cardiovascular medicine at the University of Florida. He said he searches the internet for information every hour, every day.

Many physicians have had experiences like Repas’ in which the internet has helped — and sometimes harmed — practice. Several shared their experiences and opinions with Endocrine Today.

The advantages of the internet as a source of health information are extensive: access to a massive volume of information, ease of updating information, more informed patients and better health outcomes, all of which can strengthen the physician-patient relationship.

“The internet has made endocrinology easier. It has allowed us to



Thomas Repas, DO, FACP, FACE, CDE, is a Clinical Endocrinologist in Rapid City, S.D., and a blog contributor for EndocrineToday.com.

Photo by: T. Brown

make our patients more comfortable with our treatment recommendations. Endocrinology is more difficult to put your hands around — a sore throat is easy to diagnose and explain but an endocrine problem like adrenal disorder or thyroid disease takes time to explain laboratory tests or the need for radioactive iodine for hyperthyroidism,” said Jerome S. Fischer, MD, an endocrinologist at Diabetes & Glandular Disease Clinic in San Antonio.

According to the Epocrates survey results, the majority of respondents validated that online resources improve patient safety, are timely and economical. Nearly 90% agreed that accessing clinical information online improves patient satisfaction and communication, specifically increasing medication compliance, decreasing pharmacy call-backs, making patents appear more at ease and disclosing information that physicians would not have known otherwise.



**J. Leonard
Lichtenfeld,
MD**

“People have more access to health information and therefore have more questions and make more judgments about the quality and impact of that information. Patients have become extremely proactive in determining what they think is the right treatment for them, whether they’ll receive it and who is going to provide it,” said J. Leonard Lichtenfeld, MD, who maintains Dr. Len’s Cancer Blog on the American Cancer Society website.

“This has really changed the dynamic of the traditional doctor-patient relationship. Now, the patient can assume a higher level of participation. For the most part, this is a welcome dynamic,” said Lichtenfeld, also deputy chief medical officer for the national office of the American Cancer Society.

“The former paternalistic approach we used in medicine has given way to make the patient an informed partner. It hasn’t completely leveled the playing field because I don’t think most patients can ever get to the point in which they are as experienced as a physician,” he said.

The survey revealed that the majority of physicians have made online technologies part of the consultation to check drug dosing, adverse events, interactions and treatment guidelines during patient visits. Nearly 50% of physicians reported that they most frequently use the internet during patient consultations, rather than between patient visits or after hours.

FAST FACTS

Issues of Concern

- 1 Findings from one study demonstrated that duty hour reform was associated with relative improvement in mortality in some patients in the second year following 2003 ACGME duty hour reform.
- 2 The IOM recommendations call for a five-hour protected sleep period between 10 p.m. and 8 a.m. during a resident’s 30-hour shift.
- 3 The cost to implement the IOM duty hour recommendations in the United States is an estimated \$1.7 billion.

Another way that physicians look to the internet for information is by reading blogs written by their colleagues.

Kevin Pho, MD, the web savvy author of his namesake blog, KevinMD.com, writes between five and 20 blog entries per day and keeps up-to-date with nearly 500 other blogs and websites.

“Blogging is certainly a commitment,” said Pho, who gives quick takes and opinion on anything related to medicine and health care. Since starting KevinMD in 2004, Pho has accumulated a daily readership of about 10,000 and 18,000 RSS feed subscribers.



**Kevin Pho,
MD**

“It keeps me up-to-date in terms of medical studies and relevant issues; if a patient comes to a visit asking about something they just heard on the news that day, chances are I already know about it,” said Pho, a primary care internist in Nashua, N.H.

As a health care professional, Pho writes for colleagues and patients. “One of my main goals is to pull the curtain back on health care because a lot of people don’t really know what is going on in the doctor’s office and hospital,” he said.

The medical blogosphere has exploded and Pho’s blog is just one of many. The first blog — shortened from the term “web log” — appeared on the internet in 1997. Technorati, an internet search engine for blogs, indexed 133 million blog records between 2002 and May 2008.

The EndocrineToday.com blog launched in February 2008. Its primary bloggers, Repas and Michael Kleerekoper, MD, have written blogs on a variety of endocrine-related issues, from management of hypothyroidism and cost-effectiveness of preventive care to myeloma and osteoporosis and interpreting statistics for clinicians.

“It’s amazing how blogging has really taken off. Ten years ago, I never would have expected to be blogging,” Repas said.

In a survey published in the Journal of Medical Internet Research, Ivor Kovic, MD, and colleagues surveyed 197 medical bloggers about blogging habits and motivations. Most were experienced bloggers, with 23% blogging for four or more years and 7% for six months or less. The medical bloggers reported best practices associated with journalism, such as including links to original source material and verifying facts and data.

The survey revealed that the major motivations for physician blogging were to share practice knowledge and skills with others and express creativity.

On the flipside, physicians can access patient blogs to improve care. William Wood, MD, a blogger for HemOncToday.com, recounted reading a patient’s blog.



**William
Wood, MD**

“I learned a lot of information that I may not have learned during the course of a regular visit. I also had the ability to keep track of things better over time because I received an update whenever the blog was updated, which is certainly more frequent than clinic visits,” said Wood, also a second-year hematology and oncology fellow at the University of North Carolina at Chapel Hill.

Most blogs allow readers to leave comments to generate conversation and encourage collaboration, which has created new social forums for physicians.

“I’ve been in contact with physicians from around the world thanks to the blog. These are people that I — in South Dakota — would never have been in contact with had I not been a medical blogger,” Repas said.

If Pho has a specific question and wants the opinion of a panel of doctors, he will post an entry on his blog. “Within hours, I will have responses from a variety of physicians. Getting that instant feedback and response is very powerful,” he said.

Barriers to internet health care

“The internet has made access to medical information essentially at the patient’s fingertips. The vast majority of my patients are highly educated about their disease, testing, drugs, procedures and treatments,” Pepine said.

However, widespread access opens the gate to misleading and misinterpreted information. “The internet is a Wild West. Anyone with an opinion about anything can post it,” said Wood.

Elizabeth Murray, PhD, and colleagues conducted a survey that evaluated the impact of internet health care information on the physician-patient relationship. The researchers concluded that misleading information may compromise health behaviors and outcomes or result in inappropriate requests for clinical interventions.

Additionally, “physicians may accede to inappropriate requests, either because refusal is time-consuming or because they fear refusal would weaken the physician-patient relationship. Responding to inappropriate patient requests may be particularly difficult in managed care, where patients may believe that physician refusals may be motivated by the need to control costs,” the researchers wrote in the *Journal of Medical Internet Research*.

Most physicians that *Endocrine Today* interviewed said patients commonly enter the examination room with stacks of internet printouts. Internet search engines have made everyone into an “armchair expert,” according to Repas. As a consultant, he is lucky to have the time to address the information patients bring in but acknowledged that many health care professionals do not have that time.

“When patients are misinformed, I take it as a chance to educate them about evidence-based medicine and science and how we make decisions,” said Repas.

Fischer said that he tries “to weed through the information that patients bring in and counter it by suggesting websites that are endocrine-approved, like the American Association of Clinical Endocrinologists, American Diabetes Association and Endocrine Society.”

Other suggestions to improve access to quality health information include seals of approval for valid websites, codes of conduct for development and content, filters, rating scales for users and public education in evaluating the quality of online information.

This often elevates the discussion in the examination room and can change the work flow and required strategies for time management.

Another barrier cited by physicians is a digital divide, which limits the widespread adoption of the internet as a source of health information. Patients in a higher income bracket tend to demonstrate greater access and usage compared with patients with a lower income. Novice users may lack the technical skills, experience and social connections that could help them search for and use health information on the web.

“As part of a younger generation of physicians, I’m more comfortable with the whole concept of not having to use the phone for everything,” said Noelle LoConte, MD, a blogger for HemOncToday.com; she also maintains a Twitter website.

Where to Read Physician Blogs and Take Advantage of Online Resources for Health Care Professional

- Endocrine Today, www.endocrinetoday.com
- KevinMD, www.kevinmd.com
- Dr. Len’s Cancer Blog, www.cancer.org/aspz/blog
- Epocrates, www.epocrates.com
- YouTube, www.youtube.com
- PRESENT Diabetes, www.presentdiabetes.com

“There is a learning curve with all technologies,” Wood said. “I think there are some people who are less familiar with using these things, but I haven’t seen it having a real impact on day-to-day practice. People who own personal computers and rapid internet connections are going to be able to get information a little more quickly and completely than those who don’t.”

Although Repas clearly embraces the internet, he said that he still like the print copy of journals. “Maybe I’m old fashioned, but there is something about the smell of paper and being able to page through a book or journal,” said Repas.

Physicians Endocrine Today interviewed also cited concerns about accountability, reimbursement and privacy.

“The main hurdle for health care professionals is a strong desire for privacy,” LoConte said. “I know that most patients ‘Google’ a physician before making an appointment. I’ve had patients who I just met for the first time ask me how my two girls and husband are doing because of what they have read on the internet about me.”

Some medical bloggers blog about specific cases and disclose some details about patient encounters. “I think that every doctor who blogs is certainly aware of patient privacy issues and takes great pains in terms of taking away any identifying information. As medical blogging becomes more mainstream and more expected, I think some standards need to be set up and this issue will fade over time,” Pho said.

Future of online medical resources

“As social media and social networking get more advanced, I definitely want to be at the forefront because there is tremendous potential in helping my patients and collaborating with other physicians,” Pho said.

Web 2.0 concepts and web culture communities are changing the development and functionality of the internet. From Facebook and MySpace to Twitter and Flickr, web culture communities create new opportunities in health care.

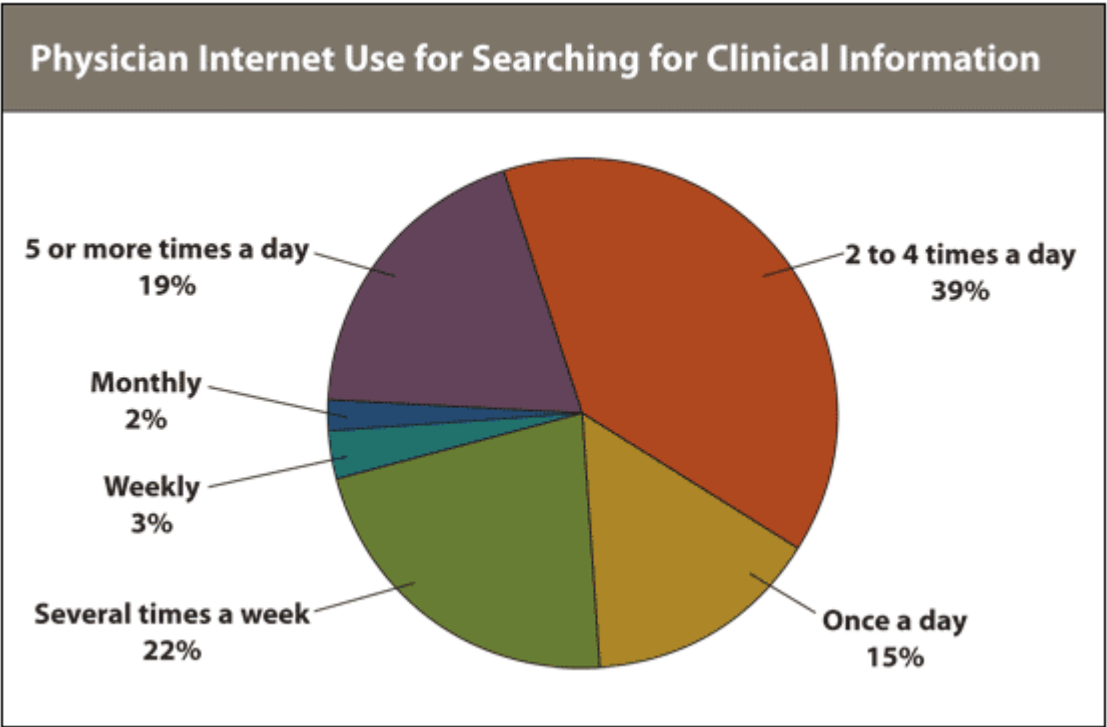
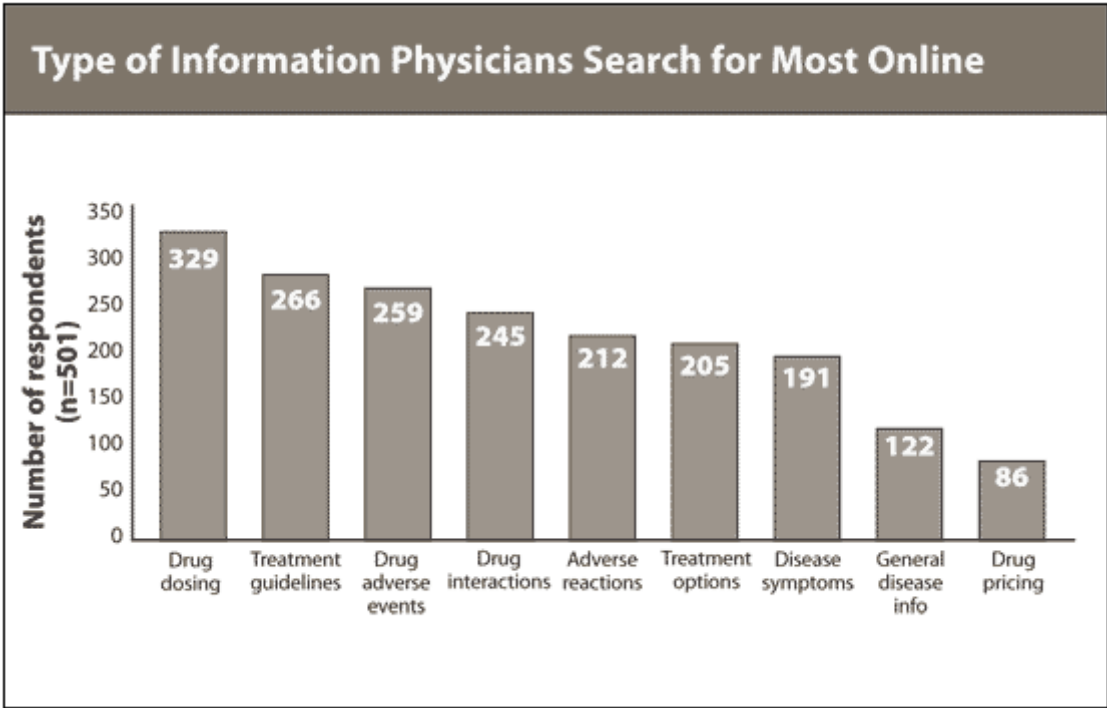
“Clinicians can learn a lot from social networking sites, like what patients are concerned about, what they’re interested in — the kinds of things that people may or may not find easy to bring up in the setting of a doctor’s visit,” Wood said.

Also, health care professionals have teamed up with YouTube, a video-sharing website, to engage the medical community and public. A simple search for “diabetes” on YouTube revealed a variety of serious and not-so-serious videos, including an 11-year-old girl’s tale of managing her type 1 diabetes and a rap song created about the disease. On YouTube and similar websites, one can find interviews with leading professionals in diabetes research, debates and live surgeries.

PRESENT Diabetes offers an online clinical conference that simulates the experience of attending a live clinical conference. The website offers more than 200 lectures, free CE/CME credit, focus groups, blogs, instant messaging and more.

A recent Pew Internet and American Life Project survey asked experts to predict technology and its role in 2020. Results indicate that the majority think mobile devices will be the primary connection tool to the internet for most people in the world by 2020.

Pepine said that as his practice shifts to an outpatient website, the group may close down its fax and phone number and place more emphasis on the internet and mobile devices.



Electronic prescribing practices

Electronic prescribing is also infiltrating the medical community. In 2009, the Centers for Medicare & Medicaid Services will pay a bonus to physicians for successful e-prescribing. The goal of the bonus program is to streamline the prescription process and minimize errors. An Institute of Medicine report revealed that 1.5 million Americans are injured every year by drug errors. In 2009 and 2010, Medicare will give physicians an

additional 2% bonus on top of their fee for e-prescribing. In 2011 and 2012, the bonus will drop to 1% and in 2013 will decrease to 0.5%.

Policies are in the works to improve health care practices that take place on the internet. Legislators introduced a bill in the House of Representatives in June 2008 that would stop rogue pharmacies from operating on the internet while allowing consumers to fill legitimate prescriptions online.

“I hope the internet can continue to be a mechanism by which we alleviate some health disparities, particularly among disadvantaged people, and can bring people to the same level playing field as far as knowledge about disease, treatment and optimal places to be treated. I hope it can provide a forum for patients and caregivers to really feel united and together,” LoConte said.