

“I am out of the office two to three times weekly; Remote desktop software allows my care to appear seamless to patients.”



BY DAVID GEER

iPads, Notebooks and Netbooks thrive in medicine

Physicians are on the move toward mobile computing.

Several mobile computing devices have appeared on the landscape, offering physicians increased facility while on the go. The devices are steadily growing in popularity in many industries, but especially in health care. We've had the opportunity to review three tablet/notebook combinations and hear from physicians who actually use them in their day-to-day work environments:

The iPad

Physicians take advantage of the new Apple iPad, leveraging its efficiency, mobility and screen size. The device enables doctors to view Emergency Medical Records (EMRs), sign off on labs and prescriptions, and apply software once available only on the iPhone and iPod Touch. And the medical scenarios for iPad are expanding. For example, physicians can share the iPad's 9.7-inch touch screen with patients as they review information about diagnoses and treatments important to the individual's care.

The iPad has applications in medical education, as well. Charese Pelham, MD, an anesthesiologist in Moultrie, Ga., has at least two medical students as-

signed to her on a daily basis at the Spartanburg Regional Medical Center, a teaching hospital and trauma center. When a student who has not seen a regional anesthesia administered is preparing to join Pelham in the procedure, that student logs onto the iPad to view a video demonstration for additional training.

Pelham also teaches on the iPad using popular apps from the iPhone and iPod Touch that include the ACLS (Advanced Cardiovascular Life Support) Advisor and ACLS Simulator. The Advisor outputs the precise action that the doctor should take for a given set of symptoms. The Simulator enables doctors to simulate a medical emergency code procedure. With the larger screen, more students can watch a simulation at once from a single device.

Steve Updegraff, MD, in St. Petersburg, Fla., specializes in LASIK and cataract surgery. “We want to keep the patient experience on the cutting edge and remove bulky portable DVD players,” says Updegraff on his use of the iPad. Rather than handing patients the heavier portable DVD players, Updegraff hands patients the iPad for a close-up and more highly detailed viewing of short educational videos about the powerful technology



Continued

involved in his procedures.

Updegraff's patients also use the iPad to surf the Internet while they are waiting. The iPad offers a touch screen keyboard, available within the display, as well as a keyboard docking station.

HP's new EliteBook 2740p Notebook / Tablet device

The EliteBook 2740p is a convertible notebook-to-tablet PC

device. Touch-screen technology enables physicians to quickly select applications and traverse pages in electronic documents with a finger or pen. "Multi-touch gestures make it easy to zoom and manipulate documents and images intuitively and precisely," says Chris Mertens, vice president of healthcare business, HP's Personal Systems Group.

The EliteBook enables doctors with mobile access to gather patient data and EMRs anywhere in a medical facility, says Mertens. The 2740p touch-screen offers digital signing and digitally handwritten notes with handwriting recognition for e-prescribing, medical data input, patient record editing, and converting handwritten notes to text to disperse among co-workers and patients.

"Most physicians are still using these convertible tablets as notebooks. Some have adopted pen-based computing, but that number is still fairly small," says Joe Kim, MD, consultant, blogger and expert in technology and medicine in Newtown, Pa.



But, according to Mertens, physicians 50 years of age and younger are very much in tune with touch technology. Hospitals, he reports, use tablets because they fear that a computer monitor is less personal. They want more interaction between patients and information, as well as the interaction doctors get with the devices.

Older physicians prefer larger monitors and workstations, explains Kim, so there is a smaller role for tablets for the time being. The EliteBook serves doctors with either preference with a single piece of hardware, enabling those who are willing to adopt pen-based computing

"Multi-touch gestures make it easy to zoom and manipulate documents and images intuitively and precisely."

gradually without lugging around two computers. "The features of the EliteBook are less compelling for doctors who are still using paper charts," says Kim.

Some physicians like to alternate between notebook and tablet modes. "Those who work in hospitals looking up EMRs appreciate the wireless, pen-based mode for panning quickly through images," Kim says. The device uses Ethernet, HP Mobile Broadband with GPS, Wi-Fi and Bluetooth.

In outpatient settings, doctors can use the device in tablet mode to surf EMRs, chart patient encoun-

ters, order and view labs, review patient history and prescribed medications, and view X-rays and graphic images. The same physicians can convert to notebook mode to use the keyboard.

The new EliteBook comes equipped with several state-of-the-art security technologies to meet HIPAA requirements around medical information security and privacy. HP ProtectTools is a broad umbrella of technologies, including hard drive encryption to protect stored data and smart card technology to limit data access to those who have access rights, such as the physician.

The Computrace BIOS Support technology enables security teams to locate the notebook on the Internet and disable it so that the data contents are not retrievable. The Trusted Platform Module TPM 1.2 Embedded Security Chips in each EliteBook provide extra protection by confirming the devices as they connect to networks. The chips also confirm that the data on the hard drive is intact and unchanged. HP SpareKey technology allows a network administrator to ensure that the device's security remains intact.

The system is as available as it is secure. HP QuickLook 3 and QuickWeb technologies give this EliteBook fast system boot-ups, which decrease downtime and increase the speed of patient care. The EliteBook comes with a pop-out LED keyboard light for typing in the dark, something radiologists and those who work in dark rooms appreciate. "No other tablet I know has an illuminated keyboard," says Kim. The case also includes a drainage hole so spills filter through.

Doctors want their devices to be continually thinner, lighter, and more rugged because they drop them frequently, Kim says. The 2740p starts out at a weight of 3.8 lbs. before adding RAM or other hardware. The laptop/multi-touch tablet's stainless steel and magnesium construction, Intel Core i5 / i7 processors, and military-grade resistance to hazards make it a desirable addition to the doctor's arsenal of medical tools. Physicians choose from available operating system software including Windows 7 Professional, Windows Vista Business, FreeDOS, and the Windows XP Tablet Edition operating systems.

The Toshiba mini NB205-N230

Patricia Raymond, MD, a gastroenterologist in Virginia Beach, Va., pre-reviews all her patients on the computer the night before she sees

them. "I make sure I have results from all the labs I ordered," says Raymond, "and the next morning I

see the patients, enter my notes, and print out their prescriptions."

Raymond recently replaced her Fujitsu LifeBook Tablet PC with the Toshiba mini NB205-N230 netbook. She prefers the smaller device for its light weight as it is easier to carry around on long workdays. "I can carry it in my purse!" she adds.

Raymond typically carries the Toshiba into exam and procedure rooms so she can add to patient histories and transmit them via fax to

the referring physician. Away from the office, she logs into her EMR software—she previously used eClinicalWorks, but now uses gMed Gastro—via remote desktop software to review and return calls, review patient schedules, and review labs and X-rays.

"I am out of the office two to three times weekly; I travel the country on speaking engagements. The Toshiba and remote desktop software allows my care to appear seamless to patients, even more so than as a conventional doctor hanging out within

Continued



Connecting family physicians and employers.

AAFP CareerLink

Simplify your life.

Accessible 24/7, CareerLink connects you with qualified physicians from around the nation. Search potential employees by geographic and professional criteria in minutes.

- Track applicants with ease.
- Display your company's profile.
- Pre-Screen potential applicants.

www.AAFPCareerLink.org



AMERICAN ACADEMY OF
FAMILY PHYSICIANS
STRONG MEDICINE FOR AMERICA

WHERE'S YOUR ON CALL ROOM?



Discover Beebe Medical Center, a progressive hospital located just six blocks from the Atlantic coast in Lewes, Delaware. Close proximity to Baltimore, DC, Philadelphia and NYC.

- Acute care 210-bed community hospital ■ MRI, CAT Scan, PET Scan
- 50,000+ Emergency visits ■ 200 physicians on staff in 36 specialties
- 2010 Distinguished Hospital from HealthGrades®
- Facilities include: New interventional cardiology, cardiac surgery, and cancer center with radiation

OPPORTUNITIES:

- Gastroenterology ■ Hospitalists (Internal Medicine and Neurology)
- Interventional Cardiology ■ OB/GYN ■ Pulmonology
- Radiation Oncology



Beebe
Medical
Center

E-mail cover letter and CV to: Marilyn Hill, Director of Physician Services, mhill@bbmc.org. Phone: 302-645-3100 ext 3668 | Fax: 302-644-9032

Beebe Medical Center | 424 Savannah Road | Lewes, DE 19958

www.beebemed.org

No recruiting firms, please

A Working Vacation!

Pocono Medical Center in the beautiful, scenic Pocono Mountains of Pennsylvania is recruiting **BC/BE Physicians** to join its staff as the hospital continues its transition from Community Hospital to Regional Medical Center.

Have the best of both worlds—a rewarding career in a scenic, affordable location!



Accepting CVs from All Specialties

Contact:

Theresa A. Manuel
Physician Retention and Recruitment
206 East Brown Street
East Stroudsburg, PA 18301
Phone: 570-476-3533
Fax: 570-420-2433
tmanuel@pmchealthsystem.org

www.poconohealthsystem.org



POCONO
MEDICAL CENTER

Tech NOTES

Continued from previous page

the office,” says Raymond.

When Raymond started looking for a new machine, she was particularly interested in finding something with a smaller screen so she could open it fully on a plane even when the person sitting in front of her reclines. She needed it to have Internet access for e-mail, remote desktop access to her emergency medical records software, Microsoft PowerPoint, and Word for writing.

Since switching to the T-Series notebook, she has discovered the device also has great battery life. “Sleep mode gives the battery a huge advantage of nine hours of life with heavy use, and it wakes from sleep mode almost instantly,” she reports.

On future Toshiba, Raymond would like to see a less sensitive touch pad mouse, a full Windows operating system installed, more RAM pre-installed, and either better speakers or ear buds that come with the device. “The cursor jumps all over with even an inadvertent brush of the touch pad mouse. I hate that it shipped with only Windows 7 Starter as the operating system. The additional operating system software costs more than the computer itself. And the speakers stink,” she says. However, Raymond is still much happier with the netbook than she was with her notebook.

Conclusion

With the many devices available today, physicians on the move are sure to find the one device that will help them move much of their work to one solution, saving time and increasing efficiencies. ■

David Geer (david@geercom.com) is a technology journalist living in Ashtabula, Ohio.