

HOSPITALS 2004



Massachusetts' hospitals have always been innovators. At the center of American medicine, they have consistently employed the best in science and technology to advance patient care. Sophisticated imaging technology, for example, allows doctors to perform intricate surgeries with faster, safer, less-invasive procedures. Hospitals have also embraced the internet. By connecting patients to their medical records and linking them by e-mail to their doctors,

hospitals have helped patients understand and participate in their healing. But no technology can replace what lies at the heart of medicine: the human connection. In this special Boston Globe advertising section, we salute community health centers, search for a good night's sleep, examine the fight against fat, and recognize the impact of alternative medicine. We also introduce you to the doctors, nurses, physical therapists, laboratory technologists, and other medical personnel who have taken medicine to a whole new level of excellence.

Hospitals Embrace the Internet

As Americans increasingly go online to search for medical information, hospital web sites are responding



Chances

are you have used the internet to search for more information about the obscure disease your uncle Joe contracted. Or maybe you've logged on to find out about a persistent pain in your wrist or to look for a medical specialist. Perhaps you've decided to give up smoking and were looking for inspiration. Whatever the quest, often the results are the same: frustrating. There are too many web sites to choose from and no way to evaluate which ones provide good, medically sound information. How reassuring it is, then, to go directly to a web site with a name you recognize, that of a highly respected hospital in your own city.

A study by the Pew Internet and American Life Project found that 80 percent of adult internet users look for health-related topics online. A majority of people in the study (63 percent) searched the internet for information about a specific disease or medical problem. The second most popular health topic (searched by 43 percent) was information about a

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particular medical treatment or procedure. These are exactly the topics at which hospital web sites excel.

A name you can trust

Take the Brigham and Women's Hospital web site. Not only can you find detailed information about Uncle Joe's illness, you can also watch an animation showing a lower GI endoscopy that you will be undergoing next week. As a member of Partners HealthCare, Brigham and Women's—along with Massachusetts General Hospital and several community and specialty hospitals—shares the information on its web site with all its partners.

Steven Baker, Partners director of marketing, says, "Even though the same healthcare content appears on each of our hospitals' web sites, each hospital can edit it and provide additional information. Brigham and Women's web site can, for instance, add information about clinical trials or their innovative surgical procedures. From the reader's perspective this is seamless." Baker says, this is a trend in hospital web sites. Hospitals buy healthcare content from content providers and then customize it.

In Partners' case, they contract with HealthGate, a company in Burlington that provides healthcare content to 700 hospitals. Bill Reece is the founder and CEO of the company. He finds the customizing by hospitals of the content his company provides to be very effective. "Hospitals can even go one step further. Patients view the hospital as a place they go to, but the direct relationship is really with the doctor. Hospitals can pass this kind of information on to micro-sites of doctors."

Caritas Carney Hospital in Dorchester is one hospital that

recognizes the effectiveness of linking its healthcare information to its physicians. As part of the larger Caritas Christi Health Care system, the hospital web site links to the same HealthGate-provided content, but it also features its own doctors. Says Patrice MacCune, their manager of marketing and community relations, "Our web site really grew out of a community newsletter we send out three times a year. The newsletter included a Q & A about health topics that was answered by our physicians. Now we do this on our web site."

The doctor weighs in

In an easy-to-read, chatty style, a physician answers questions like: "What happens when someone doesn't get enough sleep?" And, "What is the correct way to use an inhaler?"

"As a community hospital, we feel that a personal connection is important," says McCune. "Our physicians really wanted to be involved in this. As we have been adding materials, we're finding that our hits are going up."

According to Bill Reece, hospitals have been slow to realize the enormous advantages of the internet. "At first, the attitude was: Let's have a web site, everybody has one, so we'll have one. It was not much more than a simple marketing tool. Now hospitals are utilizing the internet to educate patients in all kinds of ways."

Steven Baker of Partners sees other trends, with hospitals providing e-newsletters on various subjects, as well as health-management tools. Reece says these types of communications are particularly effective for patients who need to stay in close contact with their healthcare provider. In the future, for example, a diabetic patient would be able to follow his blood sugar levels online. ■



E-mailing Your Doctor

The pros and cons of communicating with your doctor by e-mail are hotly debated within the healthcare community. Questions about patient security and compensation for physicians have not been resolved. But hospitals are providing some answers, albeit to a limited number of patients.

Patient Gateway is Partners HealthCare's online portal. More than 10,000 patients in the greater Boston area have signed up. All are patients of physicians affiliated with Massachusetts General Hospital and Brigham and Women's Hospital. Through its own web site (www.patientgateway.org), members log in to a secure portal. Once logged in, patients can access a portion of their medical records, request a refill for their prescriptions, and make appointments online. Patients can also have direct e-mail contact with their physician.

According to Steven Baker, Partners' director of marketing, the results have been positive. For the patient, there is the convenience of communicating with the doctor's office outside of office hours. At the physician's end, it cuts down on phone calls that come into the office.

Beth Israel Deaconess Medical Center has a similar protected web site called PatientSite (<https://patientsite.bidmc.harvard.edu>). More than 18,000 patients are currently signed up. Because these secure portals are run by large healthcare organizations, hospitals are able to provide the service without charging the patient.

But for some physicians, compensation for answering e-mails from patients has become an issue. A recent article in the *New England Journal of Medicine* found that physicians are less enthusiastic about communicating by e-mail than their patients are. More physicians would use e-mail if they were paid for their time reading and answering messages. The American Medical Association has called upon insurers and health plans to look for ways that doctors could be compensated.

On the issue of e-mailing the doctor, patients seem to be far ahead of their physicians. Patients are even willing to pay for it, as they see the advantage of sending an e-mail over playing telephone tag with their doctor or waiting hours in a waiting room. And, as several surveys have shown, patients use their e-mail privileges wisely. They write concise, relevant messages. They also do not bombard their doctors with unnecessary e-mail.

Though still in the early stages, chances are e-mail communication between doctor and patient will someday be a healthcare fixture. ■



Photo Dean Weatherbee/HealthGate

The Mini-Hospital

Community health centers are bringing medical care to those who can least afford it



Photos courtesy of Mass. League of Community Health Centers

Community health centers offer a variety of services, from child health programs to eldercare.

As a young girl growing up in Boston's Bromley Heath public housing development, Paula McNichols never dreamed she'd one day manage something as important to her community as a neighborhood health center.

But, "luckily for me," McNichols says, "times have changed." This year marks her twelfth as executive director of the Brigham and Women's Brookside Community Health Center in Jamaica Plain.

McNichols' good fortune came out of an idea sprouted nearly 40 years ago in Massachusetts by people like Jim Hunt, now president and CEO of the Massachusetts League of Community Health Centers. Hunt and others saw an urgent need for health-care based in poor urban and rural communities. Their dream was to establish health centers

that the state's underserved and uninsured could easily access. Such centers would offer comprehensive healthcare to everyone, regardless of ability to pay. They would employ neighborhood residents. They would be open during odd hours to increase their accessibility. And they would do an excellent job.

Healthcare pioneers

That dream came true, starting in 1965, when the nation's first community health center opened at Columbia Point in Dorchester. Nearly 40 years later, 50 Massachusetts community health centers at 101 sites—from Boston to Framingham, Great Barrington to Worthington—provide a broad range of medical services to their neighbors.

These centers buzz with activity. Last year, more than three million patients were cared for in the Commonwealth's community

health centers, according to the league. And they care for approximately 43 percent of the state's medically underserved, one out of every ten residents.

Brookside alone sees 10,000 of the area's poorest residents each year. The children, adults, and elders who walk through the center's doors would in many cases be forced to seek care in already overcrowded emergency rooms or forgo doctors altogether if the center were not there.

People come to be treated for everything from sore throats to AIDS, teeth cleanings to prenatal care. They receive mental health-care, social services, substance abuse care, HIV education and counseling, and a host of other critical services.

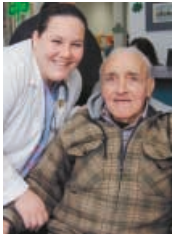
"They also rely on the center to provide them with all kinds of information and advice," says McNichols. "For example, we help them apply for MassHealth and food stamps."

To be sure, caring for those who can least afford it presents a constant challenge for health centers to stay afloat when, in many cases, fees barely cover costs. As Hunt notes, "There is always that mission-and-margin dilemma. But in the frontlines of the community health centers, all finan-

ce management and other services. The health centers, says the academy, provide care "that is at least as good as, and in many cases superior to, the overall health system in terms of better quality and lower costs."

In addition to being more cost effective than the system as a whole, community health centers are also credited with saving hospitals money by alleviating the crunch in overcrowded emergency rooms. Hunt points to the Greater Lawrence Health Center as an example. By collaborating with Lawrence General Hospital, engaging in "mutual referrals"—sending patients to the health center for primary care, to the hospital for emergency or specialized treatment—the hospital saw "an 11 percent reduction in

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emergency room use. And that's happening in other places, too," Hunt says.

This is occurring because people who would otherwise go to an emergency room for non-emergency care—usually because they are uninsured and can't afford a private doctor—can turn to their community health centers instead. But while emergency room savings "have, in fact, been a result" of community health centers, says Hunt, the centers "were not created for this purpose."

According to Kerin O'Toole, the league's public affairs manager, community health centers also don't turn a profit for the hospitals that operate them. "Usually, the hospitals take a loss," O'Toole says. She is referring to the small number of the state's community health centers that are run by hospitals, such as Bowdoin Street Health Center, funded by Beth Israel Deaconess

Medical Center, and the Martha Eliot Health Center, run by Children's Hospital.

So why do the hospitals bother? The relief on congested emergency rooms is one reason. Another, says O'Toole, is that "hospitals have an interest in building up the primary care infrastructure in their immediate communities." Perhaps the hospitals also know that by taking the initiative through community health centers, they can avoid onerous legislation.

Indeed, O'Toole points out that some states, for example California, New York, and Idaho, are mandated by state regulatory agencies to provide free care or other community services. In Massachusetts, there is no such mandate. The state's attorney general encourages hospitals to provide community benefits such as free care and AIDS education, but law does not require such services. This helps avoid, for one thing, keeping up with mountains of paperwork to prove compliance.

More work to do

Despite the obvious successes of community health centers, Hunt sees huge tasks left undone. Though he's proud of the quality of care and the number of people reached, "many more could be served," he says.

The Kaiser study also notes the gap: "Even as health centers [nationwide] have expanded to respond to the problem of medical underservice, their penetration remains well below national estimates of need. The 12.5 million persons reached by centers in 2002 represented only 25 percent of the estimated 50 million low income persons without a regular source of healthcare that year."

And while Massachusetts remains a community health centers pioneer—the state has the most health centers per capita in the nation—Hunt sees the gaps all too clearly. "We can provide more chronic-disease management," he says. "We can open more pharmacies in the health centers, open our doors to more frail, elderly people, serve more people with disabilities." To reach these goals, he adds, "we need more government investment." ■

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In Search of a Good Night's Sleep

Whether you're getting too many zzz's or not enough, science is working overtime on a cure



Who among us hasn't spent a night—or maybe more—tossing and turning, longing for sleep, and looking for the dawn? According to the American Insomnia Association, more than a third of American adults experience occasional insomnia, nearly half have brief periods of difficulty sleeping, and 1 in 10 is plagued by chronic insomnia (lasting two weeks or longer). In our highly stressed society, where people work too hard, stay up too late, and worry too much, sleep deprivation is a common problem that can lead to more serious illnesses, accidents, or low productivity.

No wonder so many medical researchers are looking for the

key to a good night's sleep. At Brigham and Women's Hospital (BWH), for example, investigators are conducting studies that examine the effects of sleep deprivation on nurses, medical residents, and healthy volunteers. Other scientists at the hospital are working with NASA to find ways for astronauts to adapt to the length of day on the international space station or on other planets. "We're looking at the best sleep cycle, the best pattern, and medications that can help advance or delay people's internal body clock," says Dr. Sanjay Patel, an instructor of medicine at BWH's Sleep Medicine Division and Harvard Medical School.

A few blocks away, at Beth Israel Deaconess Medical Center

(BIDMC), investigators are studying the brains of people with narcolepsy, a chronic neurological disorder that causes them to fall asleep at inappropriate times.

Sleeping too much

By some estimates, 1 in 2,000 people in the U.S. suffer from the disorder. But there may be far more than that, says Dr. Tom Scammell, associate professor in neurology at BIDMC and Harvard Medical School. About half of all Americans with narcolepsy don't know they have it.

Scammell explains that recently researchers have discovered the cause of narcolepsy to be a deficiency in a brain chemical called hypocretin. His team is investigating whether people with narcolepsy fall to produce

the chemical or whether the neurons that make the chemical have been injured, and if so, what causes the injury. They are also starting a clinical trial that examines the link between narcolepsy and a slower-than-normal metabolism. "This is a frustrating problem for people with narcolepsy," says Scammell. "They often gain weight despite eating a normal amount of food."

Pills vs. therapy

By far the most common sleep problem among Americans is insomnia, the inability to fall asleep even when they're tired. Gone are the days when people simply treat the problem with a warm glass of milk. The majority of patients who seek treatment for insomnia today are prescribed sleeping pills. With sleeplessness being such a widespread problem, drug companies are working overtime to develop pills that safely send the nation into dreamland.

That's good news for some people, says Dr. Gregg Jacobs, author of the book *Say Goodnight to Insomnia* (Henry Holt, 1999). "There are definitely new and better sleeping pills coming out now and in the future." But, he adds, they aren't appropriate for everyone.

The most commonly prescribed sleeping pills are Sanofi-Synthelabo's Ambien and King

existing remedies, Jacobs cautions, they do not cure insomnia. Sleeping pills are good for short-term problems, such as jet lag, or a major stressful event that causes sleeplessness, such as the death of a loved one, says Jacobs, who is also a professor of psychiatry at Harvard University and a sleep psychologist at the Sleep Disorders Center at BIDMC. But "they are not appropriate for chronic insomnia."

Why not? Pills don't work that well, and they don't work for everyone, says Jacobs. That means some people can "take multiple pills and still be up all night." In addition, many people who take sleeping pills over the long term develop "psychological dependence." That is, they fear not being able to get to sleep if they don't take a sleeping pill, which becomes a problem of its own. Last, even if the pills do work, they only work while a person is taking them. "Every study shows that once you stop taking the pills your insomnia comes right back," says Jacobs. "At some point, you might as well deal with the source of the problem, which the pills don't do."

A treatment plan

The best way to treat chronic insomnia's underlying causes, says Jacobs, is through a kind of therapy known as cognitive-behavioral therapy, or CBT. CBT is based on the idea that chronic insomnia is learned and can be unlearned. People who undergo CBT learn to modify stressful, inaccurate thoughts about sleep, modify maladaptive sleep behaviors, improve relaxation skills, and improve lifestyle practices that affect sleep. The Sleep Disorders Clinic at BIDMC is one of the few in the country that specializes in CBT for insomnia, says Jacobs. But he adds that patients don't have to visit a clinic. Studies show that CBT is also effective when administered through books or online.

For 80 percent of patients, CBT produces clinical improvement, says Jacobs. For the remaining 20 percent, medication is an appropriate treatment. ■

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Pharmaceuticals' Sonata, along with benzodiazepines and antidepressants. New drugs in development include Sepracor's Estorra, Neurocrine Biosciences' Indiplon, Takeda's melatonin agonist, and a sustained-release Ambien.

But while these new drugs may have fewer side effects than

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The Medical Detectives

The question isn't "Who dunnit?" but "What did it?" when you're a clinical laboratory technologist or technician



reported as quickly as possible. "We always keep in mind that there's a patient on the other end of the test," Vetrano says.

Vetrano and some 50 or 60 members of the medical technology staff work at Mount Auburn's laboratories days, nights, and weekends. Among the activities of technologists here and elsewhere are running blood and urine tests, looking for bacteria and parasites in specimens, matching blood for transfusions, and testing for drug levels in blood to show how a patient is responding to treatment. Some workers hold highly specialized positions, such as carrying out the many assays required when a woman undergoes in-vitro fertilization.

Blood banker

Deb Bongiorno is a technologist in the hospital's blood bank, testing for blood types, antibodies, and ensuring the donor blood is compatible with that of recipients. "I've wanted to do this since I was a kid," she says. "When all my friends were asking for dolls, I was asking for a microscope." In her fifties, she's been at Mount Auburn full time for five years. The downsides to the job? "The hours, working on weekends and holidays, and times when it's really busy," she says. "But I find it very interesting; I don't think I could be doing anything else."

In 2002, according to the U.S. Department of Labor, labs, hospitals, doctor's offices, outpatient centers, and research programs employed about 297,000 clinical laboratory technologists and technicians. Despite a continuing trend toward automation of many routine tests, jobs are expected to grow on par with the average for all occupations

through 2012, the labor department projects.

"There are a lot of unfilled vacancies in Massachusetts and nationwide," says Mary-Lou Turgeon, who heads the clinical medical technologist educational program at Northeastern University. For a variety of reasons, not enough new graduates have been entering the field in the past two decades, she explains, although in the past two or three years the

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—Nancy Vetrano, a clinical laboratory technologist

program at Northeastern has seen renewed interest.

The field is heavily dominated by women, whose career options have expanded dramatically in areas calling for scientific and technical background. In addition to the hospital-based and freestanding clinical laboratories, there are opportunities with biotech companies, sales and marketing divisions of manufacturers of diagnostics, instruments and other products, and in laboratories of state and federal agencies like the U.S. Food and Drug Administration.

A significant number of students who undergo the rigorous clinical laboratory programs decide to go on to medical, dental, and veterinary schools, Turgeon says.

Good wages; flexible hours

Medical technologists receive a bachelor's degree from a four-year college, majoring in medical tech-

nology. Technicians are trained in a two-year associate's program. In Massachusetts, there are three accredited medical technology programs: at Northeastern, the University of Massachusetts-Lowell, and UMass-Dartmouth. Students seeking technician training can find it at Bristol Community College in Fall River and Springfield Technical Community College.

A 2002 national salary survey by the U.S. Bureau of Labor Statistics showed that the median annual wage for medical technologists was \$42,910, of course, salaries vary quite a bit from one region to another. The middle 50 percent earned between \$36,400 and \$50,820, while the highest 10 percent received more than \$58,000 and the lowest 10 percent less than \$30,530.

In the Boston area, "No one is starting off at the base [salary] rate," says Deb Steward, who supervises the clinical laboratory staff at Mount Auburn. "We can command higher pay because of the technologist shortage," she says. The situation may only become more acute when the baby-boom generation of lab technologists begins to retire in a few years.

Some aspects of the profession itself have deterred new entrants in the field, says Steward, including the need for night and weekend shifts and a fear of working with infected blood that turned some prospective technologists away when AIDS emerged in the mid-1980s. However, notes Steward, "We have a very good record and very strict safety policies."

And while it's true that many routine tests have been assumed by laboratory robots, what is left represents the most interesting work, Turgeon stresses. "The specialized testing, including the growing number of molecular and genetic tests, has to be done by the more highly trained technologists."

As more and more treatment and diagnostic decisions are being aided by these tests, which detect small but significant differences in individuals' medical problems, labs will be even busier, says Turgeon. "We see it exploding down the road." ■

"We are medical sleuths," says Nancy Vetrano, a clinical laboratory technologist at Mount Auburn Hospital in Cambridge. Samples of blood, urine, cells, and other tissues undergo batteries of tests in the clinical lab. Mostly, the results are normal. But when the amount of some important chemical is too high or too low, or an unusual microbe swims into the view

of the microscope, lab technicians are often the first to know something's wrong. And in some cases, an offbeat result is the first sign of an unfolding medical mystery. "We help to solve those mysteries," says Vetrano, who calls her job "a great occupation." When you have blood drawn for a routine checkup or are in search of a diagnosis, clinical laboratory technologists or technicians—mainly working behind the scenes—are the experts who perform the analyses and make certain that the results get

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