

stat: an abbreviation for the Latin *statim*, an adverb that signals a need—for a surgical instrument, a medical supply or, as in this magazine, a short, compelling story—to be met without delay.



© THE ART ARCHIVE/CORBIS

08 INTERVIEW //

Douglas Farrago:
Medical lampoon

09 BY THE NUMBERS //

Dealing with delirium

10 INFOGRAPHIC //

Cataloguing environmental
toxins

11 MILESTONE //

A hospital for Boston

12 ON THE BLOGS //

The healing touch (screen)

13 UPDATE //

Finding clues among
the rare few

13 DEFINED //

Biocreep

FOCUS //

IN PIETER BRUEGEL'S CHILLING "The Triumph of Death," painted circa 1562, skeleton armies march across the land, sparing neither peasant nor prince from the plague that killed millions in medieval Europe. By analyzing DNA and proteins in victims exhumed from mass graves, researchers recently confirmed that the bacterium *Yersinia pestis* caused the Black Death. Other researchers studied the genetics of *Y. pestis* strains around the world to find that it originated in Central Asia, then made its way to Europe via flea-infested rats traveling along the Silk Road.

INTERVIEW //

Medical Lampoon

■ BY CHARLES SLACK

In 2001, Douglas Farrago launched Placebo Journal, an unabashedly silly—often sophomoric—but consistently hilarious compendium of parodies of the U.S. health care system. A decade later, the bimonthly publication—called by Farrago, a primary care physician in Auburn, Maine, “the only medical journal that will make you laugh...on purpose”—has 10,000 paying subscribers.

Flush with that success, the entrepreneurial Farrago (his “Knee Saver” device is worn by pro baseball catchers) has branched out with a blog, an e-newsletter and Webcasts, and currently he’s working on a concept for a reality television show. Beneath the humor, Farrago insists, is a serious purpose: shedding light on a health care system that too often fails patients and mires physicians in red tape.

Q: Where did the idea for *Placebo Journal* come from?

A: After practicing for several years, I realized that what kept me going was walks with my partners after work, sharing war stories, decompressing and laughing. *Placebo Journal* was a way to extend that conversation to a wider audience. My view is, if I can’t change the frustrating aspects of medicine, at least I can poke fun at them.

Q: Did you always want to be a humorist?

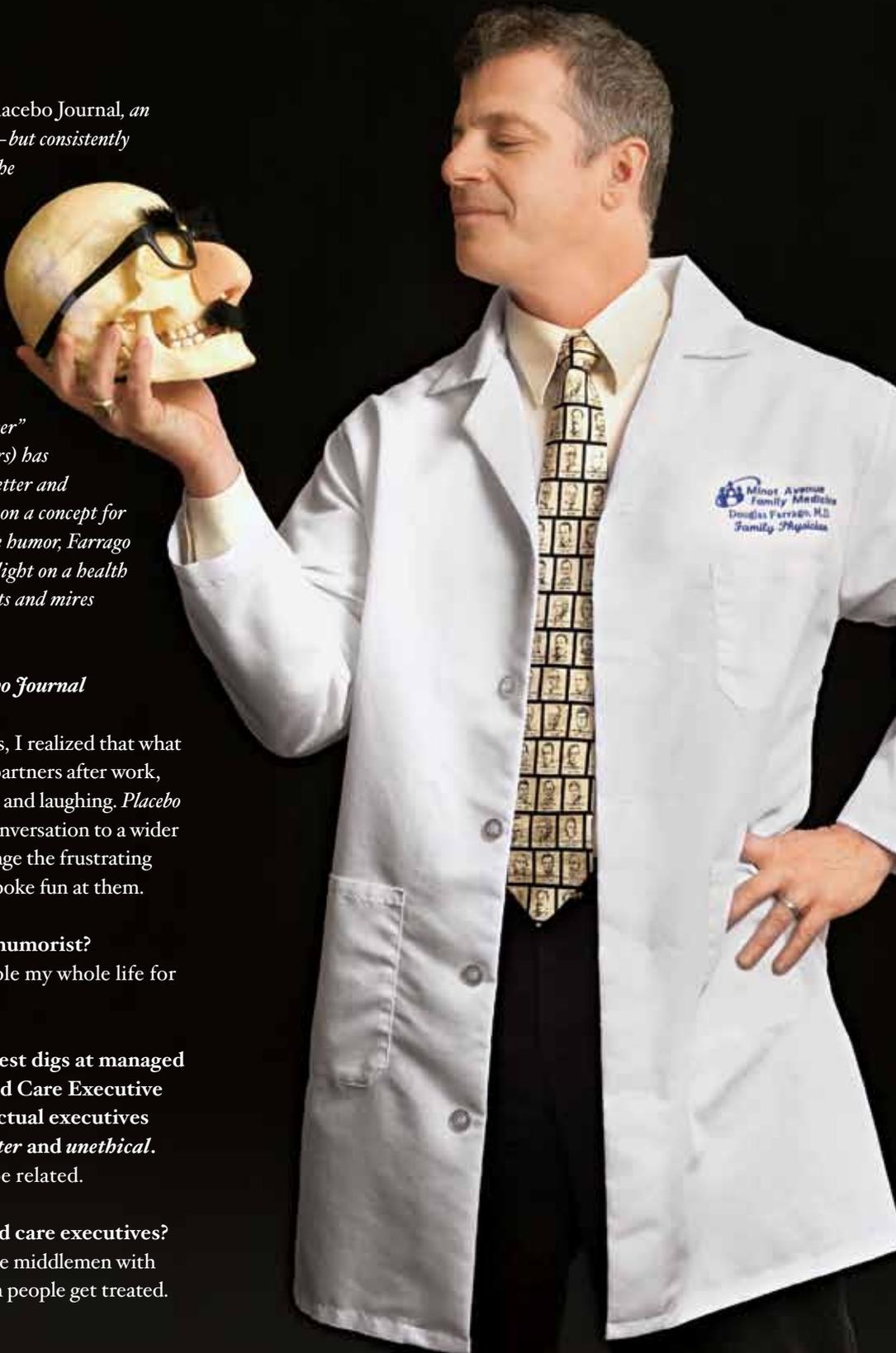
A: I’ve certainly gotten into trouble my whole life for being a wiseass.

Q: The *Journal* directs its sharpest digs at managed care—for example, the Managed Care Executive Word Find contains names of actual executives along with terms like *Satan*, *looter* and *unethical*.

A: Those words may or may not be related.

Q: What’s so bad about managed care executives?

A: Why do we need them? They are middlemen with way too much say in how and when people get treated.



What if everybody had high deductibles and paid cash for service? People would shop around for the best colonoscopy at the lowest price. There would be no delay of payment, no billing problems, no fighting over coding.

Q: Also among the *Journal's* favorite targets are drug and medical device ads, such as “Oxycotton Candy,” which “melts in your mouth, not in your nose,” and designer vaginal prolapse devices for fashion-conscious women.

A: I don't dislike drug companies. We need their products, and they need to make a profit. But how can you resist making fun of their creating the impression that all your problems will go away if you take a pill?

Q: Does the magazine support itself financially without advertisements?

A: Yes, thanks to our 10,000 subscribers. Besides, if we took advertisements, how would you know the real ones from the fake ones?

Q: You frequently parody medical bureaucracy—for example, referring to the health privacy law HIPAA as “a Huge Pain in the Ass.”

A: Bureaucracy is absolutely destructive to this job. When the ratio is five administrators for every doctor, that's insanity. The alphabet soup of HIPAA and “quality initiatives” and endless forms all get in the way of my sitting down with a patient and asking, “What's going on?” If I have to fill out “quality indicators” before I can talk to a patient who is sitting in my office in tears, thinking about suicide, there's

something wrong with the system. That's why doctors quit.

Q: You offer anonymous but true stories of patients, such as one who claimed to drink no alcohol, only beer (two cases a day), and another with countless piercings who refused allergy treatment for fear of needles. Is *Placebo Journal* reading material in your waiting room?

A: We poke fun at every aspect of medicine, and that naturally includes doctors and patients along with administrators. But I don't want my patients to think I'm writing about them—I've never put a story about one of my patients in *Placebo Journal*. Anecdotes from other physicians are completely anonymous and masked.

Q: If *Placebo Journal* is the *Mad* magazine of medicine, would your TV show be the *Monty Python*?

A: If the show happens—I'm working with two producers who are speaking to three production companies—we hope it would be fun, but it wouldn't be a parody. I would travel around the country to show what primary care is like in the trenches and to visit patients in their homes. It's too easy to judge a patient based on 15 minutes in the office, without seeing his or her broader life. We want to show the positive side of primary care. There's a desperate need for primary care doctors, but nobody wants to go into the field. We'd show how much these people are appreciated and needed by their communities. As host, my job would be to keep things fun by including those lighter, human moments that keep you going. ■

BY THE NUMBERS //

Dealing With Delirium

33 Estimated percentage of hospital patients older than 70 who experience the disorientation, cognitive impairment or irrational behavior (anxiety, fearfulness, sudden mood changes, even hallucinations) associated with delirium

3 Average number of *additional* days of hospitalization of patients diagnosed with delirium triggered by critical illness, medicinal side effects or neurological disorders exacerbated by surroundings

\$16,000–\$64,000

Range of hospital costs per patient attributable to delirium, from medicating with antipsychotics to psychiatric rehabilitation

89 Percentage of delirious patients placed in restraints to protect themselves or others from violent behavior

1 Average duration, in months, it takes for treated delirium to be resolved

35–40 Percentage who die within a year of having hospital delirium

1 in 3 Proportion of cases, according to a recent study, in which no action was taken to provide further testing or treatment when words associated with delirium, such as *confusion* and *disorientation*, were recorded in patient charts

7 Number by which a patient is asked to count backward from 100 to test for cognitive impairments such as hospital delirium

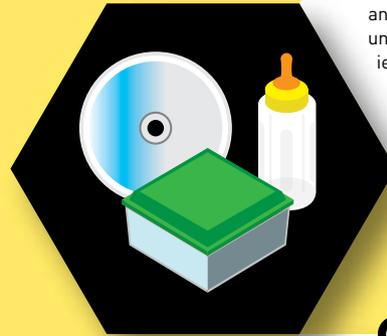
50 Percentage by which an elderly patient's risk of delirium is lowered when light, as opposed to deep, sedation is given during surgery ■

INFOGRAPHIC //

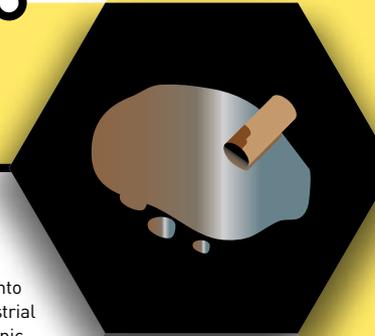
Cataloguing Environmental Toxins

■ BY KAYT SUKEL // INFOGRAPHIC BY CARL DETORRES

None of us can escape the myriad chemicals in the air, the water, our food and our homes. The Centers for Disease Control and Prevention periodically measures the so-called body burden of a sample of Americans; its most recent assessment occurred in December 2009. Though we still know little about whether the chemicals measured make us sick, the data are nonetheless vital so epidemiologists can spend years, even decades, studying the effects. The CDC tracks more than 200 substances. Here are some better-known ones.



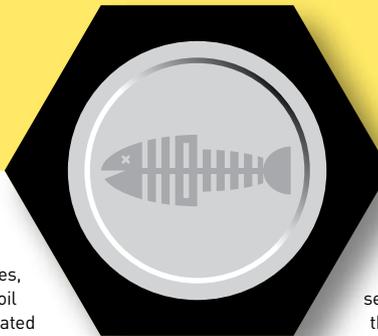
Bisphenol A (BPA)
Plentiful in plastics—notably such household items as dinnerware, compact discs and baby bottles. The risks are unknown, though animal studies have identified reproductive issues at high doses.



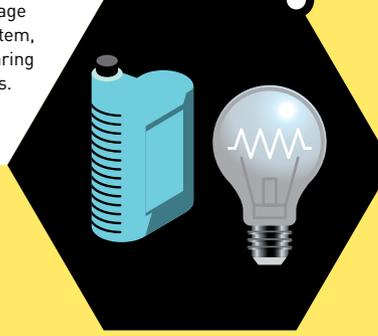
Arsenic
Found in groundwater, into which arsenic-laced industrial waste has leached. Chronic exposure to arsenic has been linked to skin, lung and bladder cancer.



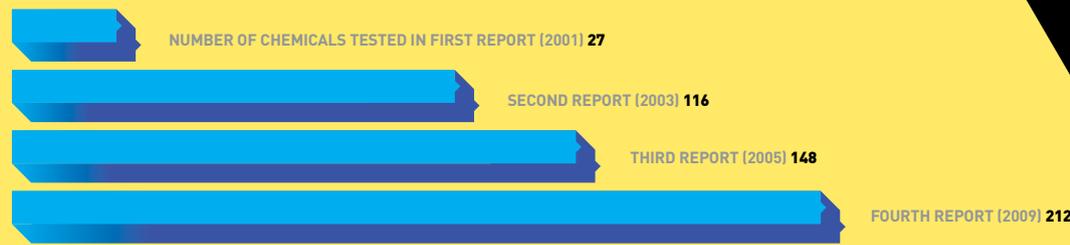
Lead
Found in storage batteries, metal alloys, plastics, soil contaminated by disintegrated lead-based paint. Lead poisoning has been linked to behavioral problems, learning disabilities and seizures.



Mercury
Found in fish and other seafood exposed to mercury in the water. Mercury poisoning can cause dramatic damage to the central nervous system, causing memory loss, hearing problems and blindness.



Tungsten
Found in lubricants and lightbulb filaments. Chronic exposure has been associated with cancer and lung disease.

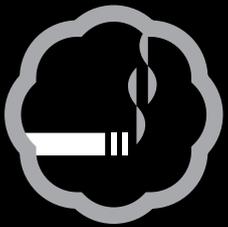


A Wealth of Data . . .

With advances in technology, a tiny sample of blood or urine is sufficient to test for dozens of chemicals. Frequent testing helps epidemiologists identify trends by comparing biomonitoring numbers with those from ongoing animal and human studies.

. . . A Dearth of Answers

Since the CDC started collecting biomonitoring data, the speed of chemical detection has far outpaced routine epidemiological study. It takes time, often decades, to understand a chemical's true impact on public health. Determining whether a particular level of a chemical is linked to disease is a complex puzzle. The risk of developing any environmentally linked disease depends on a variety of factors beyond exposure, including your genes, age, gender and lifestyle (whether you smoke, how often you exercise, how healthfully you eat). For example, not every person exposed to asbestos, a known carcinogenic chemical, develops cancer. Moreover, current data collection cannot tell researchers exactly how long compounds remain in the body, whether there are specific differences based on geography or what effect a particular cocktail of chemicals may have.



Cotinine

Located in the bodies of smokers, it's a by-product of the body's processing of nicotine. Exposure to secondhand smoke has been linked to lung cancer and heart disease.

Methylparaben

Plentiful in cosmetics and personal care products, including shampoos and lotions, as well as in food packaging. The risks are unknown, though chronic skin reactions have been reported.



Trichloromethane

Found in drinking water and public swimming pools (as a by-product of water disinfection). Massive exposures in humans have caused central nervous system depression and liver damage.



Benzophenone-3

Found in sunscreen lotions and cosmetics. The risks are unknown, though toxicity to male reproductive systems has been demonstrated in some high-dose animal studies.

Phytoestrogen

Found in soy-based foods, including meat substitutes such as tofu, protein bars and infant formula. The risks are unknown, though animal studies suggest these chemicals can adversely affect hormone regulation and fertility.



MILESTONE //

A Hospital for Boston



In the early 1800s, the sick poor of Boston had no hospital to turn to—just the almshouse, which functioned as a makeshift clinic. In the race for preeminence among the country's major cities, Boston's city fathers worried that theirs would fall behind Philadelphia and New York, which already had hospitals. The city would have to wait until Feb. 25, 1811 for the Massachusetts legislature to grant a charter that founded what would become Massachusetts General Hospital, and then 10 more years for it to be built.

It wasn't just the public that clamored for a hospital. Across the river in Cambridge, the growing Harvard Medical School not only needed more space for lectures; it also needed readier access to patients.

In 1810, John C. Warren and James Jackson, physicians at the medical school, published a circular stating the case for a Boston hospital and seeking donations. "The relief to be afforded to the poor, in a country so rich as ours, should perhaps be measured only by their necessities," they wrote.

Citizens donated thousands of dollars (and, a few years after the hospital opened, an unusual fund-raising tool: an Egyptian mummy named Padihershef, who could be seen for a quarter at Mr. Doggett's Repository of the Arts in Boston).

The trustees bought a four-acre lot called Prince's Pasture, and the renowned Boston architect Charles Bulfinch designed a majestic building (pictured) that today bears his name, crowning it

with a surgical amphitheater. The 60-bed hospital admitted its first patient in September 1821—a 30-year-old saddler with syphilis. A few weeks later, a second patient, a sailor with prolapsed hemorrhoids, had his situation corrected by a surgeon while four men held the writhing patient to his bed.

Throughout two centuries, MGH has become known not only as a teaching hospital



but as a leader in medical innovation as well. In addition to the first demonstration of ether as an anesthetic, in an 1846 operation (led by Warren and silently observed by Padihershef, who had taken up residence in the amphitheater that would forever after be known as the Ether Dome), MGH pioneered advances in medicine and surgery; in the treatment of mental health; and in advancing nursing as a profession.

Today, as physicians, nurses, students and others tend to more than 1.5 million patients who occupy the hospital's 900-plus beds or receive care through myriad outpatient programs each year, scientists employ an annual research budget of \$650 million while they work toward the next breakthroughs. ■

COURTESY OF MASSACHUSETTS GENERAL HOSPITAL

ON THE BLOGS //

The Healing Touch (Screen)

With the rise of smartphones and tablets, powerful computers are at our fingertips and in our pockets. These medical bloggers ponder how such devices will be integrated into patient care, from a nurse facing resistance to her use of apps to one doctor's tongue-in-cheek vision of the fully connected physician.

PHONING IT IN

One day as a new nurse, I can't recall the normal value of a certain cardiological test. After I whip out my iPhone with Medical Lab app, I find the answer in two minutes.

Problem solved...or so I think. One of my superiors, armed with a death glare, tells me: "Sarah, you need to put your phone away while working. It really looks bad, and you are not focused on patient care."

I beg to differ. I looked up the answer to my question in half the time it would have taken me to flip through some 10-year-old manual on the other side of the unit.

How can we help nurses understand that these new technologies allow us to be more efficient and better engaged with patients? —SarahBethRN.com, Nov. 30, 2010

A DOSE OF TABLETS

The convergence of electronic medical records with social types of communication might go something like this:

When I see a patient, I record basic information on a tablet at the bedside. I complete the record at my workstation, which syncs with my tablet. On my large flat-screen monitor, the patient's electronic medical record occupies the left side. On the right is a communication portal that provides real-time contact with my local pediatrician colleagues.

So I'm at my workstation when a message pops up from a colleague who wonders if I have a minute to discuss a case via telechat.

A boy with ulcerative colitis has mild cramping and occasional blood-streaked stools. The patient's name is tagged, so his chart appears on my screen. I see that his

THE CUTTING EDGE //

Colonoscopy on a Cloud

Gastroenterologists might one day find aid in analyzing colonoscopies by accessing massive computer processing power and the world's best doctors. Researchers at Massachusetts General Hospital, having created an efficient virtual colonoscopy, plan to move their system to the cloud, which would allow physicians to view a scan together to collaborate on diagnoses.

To build a 3-D rendering of a patient's lower intestine, software stitches together 1,000 cross-section images taken by a CT scan of the abdomen. This rendering allows physicians to examine the colon without inserting a camera into the patient, as with traditional colonoscopies. And while a typical exam requires that patients drink powerful laxatives beforehand to ensure an unobstructed view, in MGH's exam a patient imbibes only a small amount of barium or iodine, which allows his or her waste to be detected by software and removed digitally.

Such scans, however, require substantial computing power, so much so that MGH's technology took more than an hour to generate a rendering (a traditional colonoscopy, by contrast, provides real-time information). In collaboration with Microsoft and Intel, MGH reduced rendering time to nearly one minute after a tenfold boost in processing power.

Recent studies have shown virtual colonoscopies to be nearly as reliable as the traditional kind. Yet any small disadvantage over a traditional exam, researchers assert, will be outweighed by the fact that the new method will coax into doctors' offices people who would otherwise stay away—and thus, they hope, detect more cases of colon cancer earlier. ■

Colazal dose is low relative to his recent growth. I recommend some blood work and a bump in his Colazal dose.

The system recognizes that I'm discussing UC and Colazal. In a panel on my screen appear four recent publications on another UC treatment. I select one study, and it's immediately available on my desktop.

On the lower left part of the screen, I can monitor the dialogue between patients and

our triage nurse. Serious issues are flagged for me so I can review the thread or recorded tele-exchange. I can then communicate directly with the nurse or patient.

How cool would that be? —Bryan Vartabedian, a pediatric gastroenterologist at Texas Children's Hospital, at 33charts.com, Nov. 27, 2010

DISTANCE DOCTORING

Once iPads have front-facing camera chips, hospitalists will be able to set up telemedicine/iPad ("TeliPad") consulting practices. All you need is a trusted RN to take vitals and walk from room to room with an iPad showing your charming hospitalist face to all the little old ladies. Using your own iPad, you can dictate your physical examination and hospital discharge summary via voice transcription software. You can even have your charges sent to your billing company for rapid cash flow turnaround.

And you can do this all while using Google Maps to find your way to the Four Seasons in downtown Miami. In a declining payment environment, TeliPad medicine represents an incredible opportunity to earn extra money while driving.

—thehappyhospitalist.blogspot.com, Jan. 18, 2011 ■



UPDATE //

Finding Clues Among the Rare Few

■ BY CHARLES SLACK

“A field of research that has become accustomed to failure and disappointment” is how *Proto* characterized HIV/AIDS in its Winter 2009 story “The Rare Few.” Recently, however, scientists have found two causes for optimism.

In November, the Norwegian pharmaceutical company Bionor Pharma announced that in trials, a vaccine-like drug, Vacc-4x, significantly reduced the amount of HIV present in AIDS patients. The drug works by stimulating an immune system response to an artificially modified protein that bears similarities to the HIV virus. Although it does not represent a cure, the drug seems promising in slowing the disease.

Also in November, researchers reported the discovery of another potential route to therapy. For nearly 20 years, physicians have been aware of an extraordinary group of people: HIV-positive individuals who never seem to experience symptoms of the disease or to develop AIDS. Yet when *Proto* covered the phenomenon barely two years ago, researchers still had little idea what molecular factors set apart these so-called elite controllers—about one in 300 infected people.

One of many theories studied was the idea that elite controllers possess a genetic trait that confers immunity to HIV. Yet testing this idea would require combing through the human genome’s 3 billion pieces of coded information to look for that trait. Scientists conducting the International HIV Controllers Study reported in the online version of the journal *Science* that this seeming needle-in-a-haystack search had produced spectacular

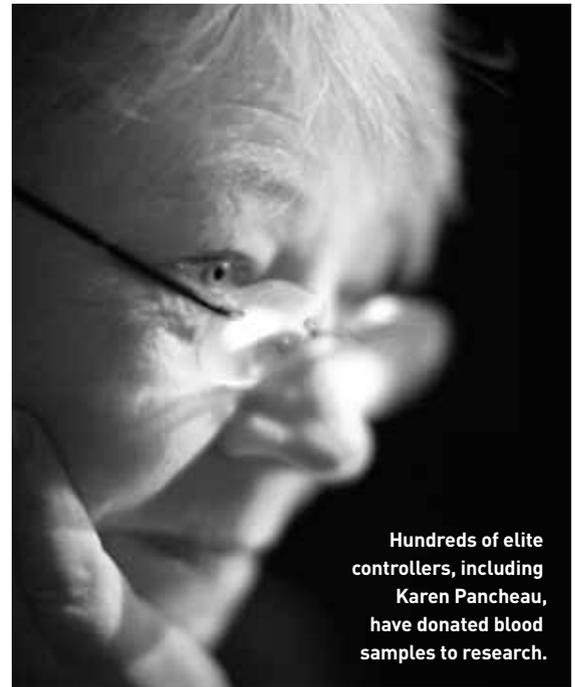
results. “We found that it was basically five amino acids that made the difference between someone who controls and someone who doesn’t,” says Bruce D. Walker, director of the Ragon Institute of MGH, MIT and Harvard, and leader of the study.

Those amino acids are contained in genes that encode human leukocyte antigens. After a virus enters a cell, these antigens carry pieces of the virus to the cell’s surface to put them on display. The display serves as a distress signal to the immune system, which dispatches T cells to destroy the infected cell. Although it’s still unknown why the immune system usually fails to stop AIDS and other deadly viruses, researchers for years have been investigating HLA genes as a possible key.

Scientists don’t yet know what the variations mean, though they did detect in elite controllers a distinct shape in the part of the antigen that binds to the virus, possibly helping it successfully flag the virus for destruction.

The news heartens the hundreds of elite controllers who have donated

blood to research. Karen Pancheau has lived with the virus since receiving a tainted blood transfusion in 1982. “If I can even in some minute way make other people’s lives better,” Pancheau says, “then I have a moral obligation to do what I can.” ■



Hundreds of elite controllers, including Karen Pancheau, have donated blood samples to research.

DEFINED //

biocreep [ˈbī-(,)ō ˈkrēp] n: a possible phenomenon in which so-called noninferiority trials, which compare the efficacy of new drugs with that of existing drugs, in fact allow inferior treatments to go to market.

Noninferiority trials, used predominantly in cases in which testing a new drug against a placebo would be unethical, were used in a quarter of new drug tests submitted to the Food and Drug Administration for review from 2002 to 2009. These trials are designed to determine whether the difference between the latest drug and the existing one, dubbed an active control, is “small enough to allow the known effectiveness of the active control to support the conclusion that the new test drug is also effective,” according to the FDA. Yet the U.S. Government Accountability Office recently found cause to investigate the FDA’s definition of “small,” since some noninferiority margins allowed for as much as a 20% lower effectiveness rate compared with the active control. Though no evidence of biocreep was found, the FDA is tightening regulations to prevent the approval of drugs that are no more effective than a placebo. ■