

Vanderbilt**Medicine**

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∴ Delirium in the  
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Education **20**

∴ Bill Stead; The  
Consummate Systems  
Builder **26**

# Vanderbilt**Medicine**

FALL 2004

## Safety First

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new ways to ensure  
patient safety



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2004 MEDICAL ALUMNI REUNION

## Nov. 4-6

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## VanderbiltMedicine

VOLUME 21, NUMBER II

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## VanderbiltMedicine

FALL 2004

### :: on the cover

Vanderbilt University Medical Center is on course to become one of the safest medical centers in the country, while striving for high quality along the way.



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Perfect quality would mean aligning practice with the limits of biological knowledge. Bill Stead, M.D., is helping Vanderbilt learn how quality of that sort might be achieved.



BILL STEAD: SYSTEMS BUILDER 26

BY HARRY R. JACOBSON, M.D.  
Vice Chancellor for Health Affairs

## Practicing medicine is all about making decisions.



DEAN DIXON

What is the correct diagnosis? How should I help my patient attack this disease? Is surgery the right course for this patient now? The best decisions are always made when the best information is immediately at hand. As doctors we are always assembling information - vital signs from the nurse's notes, drug allergies from the patient's chart, new best practices from the journal article we read last week and the meaning of lab values we learned when we were in medical school.

Since the dawn of medicine, all of those pieces of information that go into clinical decision-making were assembled and analyzed between the ears of the practitioner. It gets harder and harder to remember it all and harder and harder to stay on top of the relentless explosion of biomedical studies. Bill Stead (*see article on page 26*) loves this statistic about how much new information is published every year - if a dedicated doctor wanted to read two journal articles every night, by the end of the first year he would be no more than 2,000 years behind.

We can't solve this problem by making our heads bigger - 10 million years of evolution produced this head size and we are ill-equipped to change it. We can, however, create more brainpower, not with cells and hydrocarbons but with silica and binary code... through the computer.

Vanderbilt is one of the leaders internationally in bringing the power of computers to the task of clinical decision-making; creating the electronic patient record, building automated clinical pathways and order sets, gathering the best available research data and assembling it all into a useful scheme to aid the physician in making the best possible decision.

This edition of *Vanderbilt Medicine* outlines some of what we're doing to lead a revolution in the way medicine is practiced and the way it is taught. First, we are making Vanderbilt one of the most evolved informatics environments anywhere. But WizOrder, StarChart and StarPanel are only as effective as our physicians allow.

Not only is Vanderbilt building good software, we are building those systems around the way a physician and a nurse practice. We are making informatics an organic part of the way we practice medicine. Too many efforts at implementing computer technology in health care have crashed on the rocks of physician opposition, opposition to technology that makes them clerks, that eats their time and provides too little benefit for the effort.

Now imagine the day, not too far distant, when we will be able to use the patient's own genomic and proteomic profile to prescribe the safest and most effective drug for them. Without an effective computer-based system of decision support, the era of personalized medicine will be permanently on hold. The work we do today at Vanderbilt will enable the progress of tomorrow. **VM**

## CF drug study offers hope to young patients

Vanderbilt Children's Hospital participated in a study late last year to test a new drug to improve lung function in people with cystic fibrosis (CF). The results show the drug has promise as a new type of therapy for the chronic and life-threatening disease.

The new therapy is an inhaled drug manufactured by Inspire Pharmaceuticals Inc. Patients at Children's Hospital who participated in the study were given either the drug or a placebo to inhale three times a day for a month.

Tate Wilson, an 11-year-old from Smyrna, was one of the participants. "It wasn't hard to participate," Wilson said. "It was a nebulizer treatment, but then I had to write down notes, and that wasn't so easy."

Ninety subjects were enrolled in the multi-center, nationwide trial, including five at Children's Hospital. The participants were divided into five groups according to the dose being studied. The study was designed to find out if the new drug is well-tolerated at different doses.

The results showed that each dose was well-tolerated, but beyond that, those who took the drug had better lung function after using the drug for four weeks than those who took the placebo.

Chris Harris, M.D., primary investigator for the study at Children's Hospital, said the results are exciting because it is the first drug to target the base defect in the lungs of CF patients.

"The gene defect in CF causes an important chloride channel in cells lining the airways to remain closed. That prevents good flow of moisture, and in turn prevents the proper flow of mucous," said Harris, who is a pulmonologist and assistant professor

of Pediatrics at Vanderbilt Children's Hospital. "[The new drug therapy] opens up a different chloride channel to allow better flow of moisture, and so, better flow of mucous out of the lungs."

The results were intriguing enough to cause the Cystic Fibrosis Foundation to comment on this early study, and encourage participation in the next phase, which should start in the fall.

"We are delighted with these results, which far surpassed the success criteria that were set forth as part of the agreement between Inspire and CFFT [Cystic Fibrosis Foundation Therapeutics, Inc.] to do the study," said Robert J. Beall, Ph.D., president and CEO of the Cystic Fibrosis Foundation and CFFT. "We are very pleased that Inspire will be moving forward with this exciting potential product, which addresses the basic CF defect." **VM**

- CAROLE BARTOO

## News and happenings at Vanderbilt Medical Center



### LifeFlight adds state-of-the-art helicopters

Vanderbilt LifeFlight celebrated its 20th birthday recently with a \$5.4-million gift - the arrival of the new LifeFlight 1, a state-of-the-art helicopter. In March, the Medical Center Board approved the purchase of three new helicopters at a cost of \$5.4 million each. Vanderbilt LifeFlight is the first hospital-based air ambulance program in North America to utilize the American Eurocopter EC-145, which has been called by aircraft industry experts one of the safest, most advanced helicopters on the market. **VM**



Tate Wilson (left), shown here with his mother.

DANA JOHNSON

# Raymond Burk's research garners MERIT Award

Raymond F. Burk, M.D., professor of Medicine and Pathology, has received a MERIT (Method to Extend Research in Time) award from the National Institutes of Health for his research on the nutritional effects of selenium.

MERIT awards recognize and reward consistently high grant performance by providing up to 10 years of continuous funding without competitive review.

"The award will allow us to focus on the science instead of having to play the grant game," Burk said. "I'm very happy to get a MERIT award; it's an honor."

"Clearly this is one of the highest honors that a researcher can receive, and we're so proud of Dr. Burk," said Steven G. Gabbe, M.D., dean of the School of Medicine.

"This new MERIT award is not only a well-deserved recognition of Dr. Burk's significant research contributions, but it is yet another sign of the thriving research enterprise here at Vanderbilt," added Jeffrey R. Balsler, M.D., Ph.D., associate vice chancellor for Research.

Burk's interest in selenium, an essential trace element, dates to his days as a first-year Vanderbilt medical student 40 years ago. "That was really before much was known about the biological role of selenium," Burk recalled, "and I've just continued to work on it ever since."

Burk and others have discovered that selenium's nutritional effects depend on "selenoproteins" — proteins that incorporate selenium into their structures. There are approximately 25 different kinds of selenoproteins in the human body, and most of these are enzymes that serve vital functions, Burk said. The enzymes that metabolize thyroid hormones are selenoproteins, as are the thioredoxin reductases, which participate in protecting the cell from oxidative stress.

Burk and colleagues including co-investigator Kristina E. Hill, Ph.D., research associate professor of Medicine, have focused for some time on selenoprotein-P, a circulating selenium transport protein. Burk's team was the first to

recognize selenoprotein-P, to purify and characterize it, and to clone and sequence it. Brain, testis, and placenta have specialized mechanisms for extracting selenium from selenoprotein-P, Burk said. "We are in the process of elucidating this very efficient uptake process."

Selenoprotein-P knockout mice have proven useful in verifying the critical need for dietary selenium and in studying the transport protein's roles. Mice without selenoprotein-P die unless they consume large quantities — 10 times the normal amount — of selenium.

When the knockout mice eat food with normal levels of selenium, they develop neurological problems including uncoordinated movements and neuronal cell death and ultimately die. Even with high selenium intake, the male knockout mice are infertile.

"We're now trying to characterize the effects of selenium deficiency in the brain, and whether the damage we see in mice is related to any human diseases," Burk said. "You can imagine that a person with a mutation in selenoprotein-P or in the mechanism for taking it up into the brain might have some neurological damage or be predisposed to having neurological damage."

Likewise with respect to male infertility, the investigators will characterize the effects of selenium on spermatogenesis, he said. **VM**

—LEIGH MACMILLAN

## Lizard saliva may treat diabetes

The saliva of a venomous lizard may hold treatment for those with type 2 diabetes.

Diabetes researchers at Vanderbilt University Medical Center are testing a new drug, which is derived from the saliva of the Gila monster.

This study is one of many novel research projects under way by researchers at the Vanderbilt Diabetes Center.

In other clinical trials, a new drug, called Exenatide, has produced significant results in reducing blood glucose levels in those with type 2 diabetes. In these studies Exenatide has not only lowered blood glucose levels, but also has shown an ability to reduce the body weight of study participants.

"Treatment of type 2 diabetes has become very complicated over the last 10 years because we understand the things that go wrong in the body causing type 2 diabetes are themselves complicated," said Stephen Davis, M.D., the Rudolph H. Kampmeier Professor of Medicine and chief of the division of Diabetes, Endocrinology and Metabolism.

Davis says the body of a person with type 2 diabetes no longer makes enough insulin, and the insulin that's produced by the body doesn't work effectively. Also, people with type 2 diabetes have increased production of a hormone called glucagon. This hormone counteracts the effect of insulin. The tipping point for many people with type 2 diabetes is brought about by an expanding waistline.

Hormonal imbalance, and a lack of sufficient insulin production, causes an increase in the appetite of those with diabetes that proves very difficult to control.

The way diabetes treatment has evolved is by trying to attack all these complications with different combinations of oral and injected medications.

"The great excitement about this new treatment is that it can attack all these problems in one go," Davis said.

The new treatment, known to researchers as a glucagon-like peptide-1

(GLP-1) analog, is a naturally occurring hormone in the human GI tract. GLP-1's property is to increase insulin when glucose is high, and shut off production of the anti-insulin hormone glucagon. GLP-1 slows down the stomach's emptying of glucose, and can decrease appetite, which results in weight loss.

The problem in humans is that these hormones only last about two minutes in the bloodstream. The body produces an enzyme that rapidly inactivates them. Now this naturally occurring hormone has been modified to overcome the effect of the enzyme and last much longer in the body.

"The new agent we're studying actually comes from the saliva of the Gila monster and is called Exendin-4," Davis said. "This substance is about 50 percent identical to human GLP-1, but doesn't get attacked by the enzyme in the bloodstream, and therefore is not rapidly inactivated."

Davis says one injection of the new agent can last up to 12 hours.

Exendin-4 has already successfully undergone several smaller trials, and three large FDA registration trials, and the results look promising. **VM**

—JOHN HOWSER



COURTESY NASHVILLE ZOO



## VUMC named to Solucient top 100 for fifth year

For the fifth year in row, Vanderbilt University Hospital has been recognized as one of the top 100 hospitals in the nation in a study by Solucient Institute.

The list identifies hospitals that "excel in a range of clinical and financial measures when stacked against their peers," according to the May 24 *Modern Healthcare*, where the list appeared.

Vanderbilt was the only Tennessee hospital of the 15 recognized in the major teaching category.

"The hospital's staff and faculty work very hard to be the best. They know Vanderbilt Hospital provides excellent service and high quality care. It's very rewarding to be recognized publicly for our work," said Norman B. Urmey, executive vice president for Clinical Affairs and CEO of VUH.

If all inpatient Medicare patients were treated at Top 100 hospitals, almost 100,000 more patients would survive each year, Solucient estimated, and approximately 75,000 patient complications would be avoided. This would save some \$8.8 billion each year. **VM**

—JESSICA HOWARD

Dr. Raymond Burk with Amy Motley (left) and Kristina Hill, Ph.D.



ANNE RAYNER

## Mouse models

Vanderbilt-Ingram Cancer Center's pioneering work in developing mouse models to help unlock the mysteries of cancer in humans has received a significant boost with renewal of its membership in the National Cancer Institute's Mouse Models of Human Cancer Consortium. Renewal of the grant will provide more than \$4 million in support over the next five years; more importantly, it maintains the involvement of Vanderbilt scientists in an elite network of 16 institutions from across the country. Of these, VICC is the only center to hold both a Mouse Models of Human Cancer Consortium grant and a Specialized Program of Research Excellence (SPORE) focused exclusively on colorectal cancer. SPORes bring together basic, clinical and population-based scientists to collaborate on research with clear potential to improve patient care. **VM**

-CYNTHIA FLOYD MANLEY

**Robert J. Coffey, M.D., and fourth-year medical student Stephen Settle study mouse models.**



## Oates receives international Alzheimer's research award

John A. Oates Jr., M.D., Thomas F. Frist Sr. Professor of Medicine and professor of Pharmacology, has received a three-year, \$500,000 award to study the link between the cyclooxygenase (COX) enzymes and Alzheimer's disease.

The American Health Assistance Foundation's Alzheimer's Disease Research program presented its first international award to Oates during the Ninth International Conference on Alzheimer's Disease and Related Disorders in Philadelphia.

"This is going to give a great boost to Alzheimer's disease research at Vanderbilt," Oates said. "The award reflects the strength of the research being conducted by many of my colleagues."

Oates, who has made major contributions to current understanding of the COX enzyme pathways, is the principal investigator of the award.

Co-investigators are Olivier Boutaud, Ph.D., research assistant professor of Pharmacology at Vanderbilt, Katrin Andreasson, M.D., assistant professor of Neurology and Neuroscience at the Johns Hopkins School of Medicine, and Venkataraman Amarnath, Ph.D., research associate professor of Pathology at Vanderbilt.

The Vanderbilt researchers previously have reported that the COX enzyme pathway can lead to production of highly reactive molecular compounds called levuglandins. These compounds can accelerate the formation of aggregates of beta-amyloid protein that are toxic to nerve cells.

The finding may help explain how the use of non-steroidal anti-inflammatory drugs, which inhibit the COX enzymes, seems to reduce the risk of developing Alzheimer's disease. **VM**

-BILL SNYDER



## High doses of popular pain reliever prescribed despite heart risk

The evidence is growing: chronic, high-dose consumption of the arthritis pain reliever Vioxx can raise blood pressure and the risk of serious heart problems.

Yet a "substantial number" of patients continue to be prescribed high doses of the drug, according to researchers at Vanderbilt University Medical Center.

The researchers counted the number of prescriptions for non-steroidal anti-inflammatory drugs

(NSAIDs), including ibuprofen, naproxen, Celebrex and Vioxx, given to participants over age 49 in Tennessee's Medicaid program, TennCare.

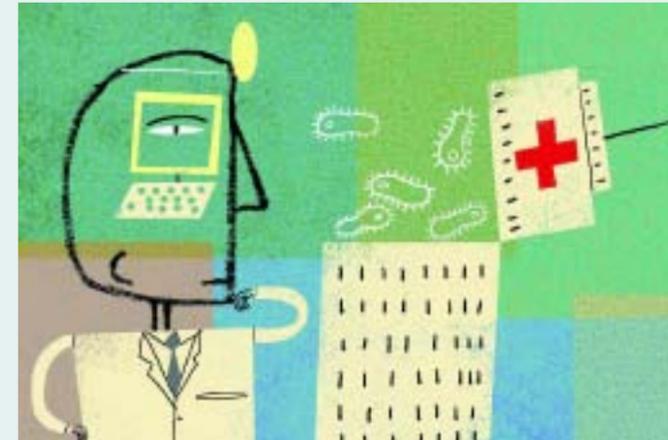
Of 40,000 participants who had prescriptions for any NSAID as of July 1, 2001, nearly 10,000 were taking Vioxx, and more than 1,000 of them were "high-dose" Vioxx users, with 30-day supplies of 50-milligram pills. Half that amount – 25 milligrams a

day – is the recommended dose for long-term use.

The 50-milligram dose has not been shown to be more effective than lower doses of the drug in relieving chronic pain, and it has been linked to an increased risk of heart attacks. "Such use should be discouraged," the researchers concluded in the June issue of the journal *Pharmacoepidemiology and Drug Safety*. **VM**

-BILL SNYDER

# cover your mouth, wash your hands



Hospitals are supposed to help people get well, not make them sicker. Yet, according to the Centers for Disease Control and Prevention, more than 2 million patients admitted to hospitals in the United States develop hospital-acquired infections each year.

Hospital-acquired infections, also called nosocomial infections, are exactly what their name implies — infections acquired while in the hospital that were not present at and did not originate from the patient's original admitting diagnosis. Nosocomial infections can be caused by viruses, bacteria, fungi, or parasites, and are spread in a variety of ways, the most common of which include respiratory procedures, intravenous (IV) pro-

cedures, urinary bladder catheterization, surgery, and open wounds. Nosocomial infections are most prevalent in the pediatric, neonatal, and burn intensive care units.

Tom Talbot, M.D., assistant professor of Medicine in the division of Infectious Diseases, says it is no surprise that certain procedures have a high risk of infection.

"Our skin is our biggest natural barrier against infection, and a penetration of that wall exposes the body to an increased risk of infection. Any time the body's natural barriers are compromised you are taking a risk," Talbot said.

Vanderbilt takes these risks very seriously. William Schaffner, M.D., chairman of Preventive Medicine, works with the VUMC Infection Control Department to investigate and prevent outbreaks of infection among patients and health care personnel. Infection Control seeks and evaluates the latest innovations in safe needle devices and other protective equipment. The department also develops educational programs to ensure that hospital employees are informed of proper sanitary procedures.

Yet, Talbot notes that departments and programs can only succeed with the assistance of all health care workers.

"We can provide education and guidelines, but it is ultimately up to the individual to follow those guidelines.

Infection control is everyone's responsibility," Talbot said.

Recently, the media has been bombarded with studies speculating the various possible sources of infections in hospitals. Doctors' cell phones, palm pilots, and even neckties have all been suspected, being called breeding grounds for bacteria. Talbot calls these reports intriguing, but notes such items are likely minimal contributors to actual infection transmission.

"These studies make interesting stories, but the fact of the matter is, you can pick up bacteria practically everywhere," Talbot said.

Most doctors agree with Talbot. There is no mysterious source and no single solution when it comes to hospital-acquired infections.

"It's not rocket science. It's about remembering the simple things your mother taught you — cover your mouth, and wash your hands," Talbot said. **VM**

- ANNA GIPSON

"It's not rocket science. It's about remembering the simple things your mother taught you — cover your mouth, and wash your hands."

# Top Guns and The Case of the Disappearing Bowel

By Robert D. Collins, M.D.

IF DR. JOHN L. SHAPIRO had ever awarded a booby prize to the autopsy group least likely to succeed as physicians, that of Bill Edwards, Ed Kimbrough, Jim Mark, and Jud Randolph would certainly have been a contender for such recognition in the 1950/51 school year. For starters, their academic record as a group in the first year of medical school was mediocre if not alarming. All had attended Vanderbilt University as undergraduates, where their transcripts show no hint of grade inflation.

As a historical note, admission to medical school in those halcyon days was not dependent on high grade point averages, and MCAT's had not been invented. Strong recommendations evaluating character and potential from a trusted pre-med advisor generally opened the door, and all four had been warmly supported by Dr. Claude Chadwick, their Biology professor. However, Dr. Shapiro had a distinct tendency to trust his own judgment above all such evaluations. What he saw on a fateful night in the fall of 1950 was not encouraging.

During this period, second-year students were on call day and night during the pathology course to assist in the performance of autopsies, which were usually conducted by house officers. However, on this particular night Dr. Shapiro had volunteered to be the pathologist in charge owing to a high caseload in the preceding few days. By chance, Edwards, Kimbrough, Mark, and Randolph composed the next

group on call; accordingly, they were assembled in short order and reported for duty. As Dr. Shapiro dispensed generous helpings of fear and awe along with education about disease during class and labs, the close contact inherent in assisting him at an autopsy was guaranteed to provide a memorable if not harrowing experience.

During the autopsy, while Dr. Shapiro was concentrating on determining the cause of death in their patient, the students were focused on staying out of trouble and on displaying an acceptable level of competence in performing the various menial tasks they were assigned. Therefore, we may readily imagine their distress when Jim Mark inadvertently allowed several feet of intestine to slip down the drain while it was being washed. The plumbing in the sink was perverse in that bowel was readily accepted by the drain, but could not be retrieved despite gentle and then rather vigorous pulling on the amount still in hand.

Picture the scene as first one and then two of his partners gathered at the sink, pulling singly and in concert in a frantic effort to retrieve the specimen for which they were responsible, all the while praying that their remaining partner could divert Dr. Shapiro's attention from the disappearing bowel crisis just a few feet behind his back. Life was sufficiently difficult under Dr. Shapiro's tutelage that this completely unexpected turn of events engendered panic and a conviction that their medical career was in jeopardy. As it

turned out, his reaction was vintage Shapiro, motivational rather than degrading, and is best told by members of this autopsy group.

This account of the Case of the Disappearing Bowel is guaranteed to be accurate. You may be aware that autopsy groups in other classes have described the same experience, perhaps because the whole episode quickly achieved a quasi-Homeric status as the story was told and retold. However, to my knowledge only this group has had their story authenticated by Dr. Shapiro.

What is the justification for their designation as Top Guns? Despite their rough start, all four members of this autopsy group became distinguished surgeons, reaching the top echelon in their respective surgical specialty: Edwards was a leading vascular surgeon in Nashville when appointed the H. William Scott Professor of Surgery and Chief of the Division of Vascular Surgery at Vanderbilt from 1991 to 1994; Kimbrough was the first Professor and Chair in the newly established Department of Orthopaedic Surgery in the University of South Carolina College of Medicine, holding this position from 1981 to 1995; Mark was Professor of Cardiothoracic Surgery at Stanford University School of Medicine from 1969 to 1997 and Head of the Division of Thoracic Surgery from 1972 to 1997; Randolph was Professor of Surgery at George Washington University and Surgeon-in-Chief at the Children's National Medical Center in Washington, D.C. from 1963 to 1991.

The more difficult question is why (and how) did they become Top Guns? Chance, certainly, was a major factor in bringing them together on the Vanderbilt campus and in placing them under the influence of Dr. Claude Chadwick. Similar backgrounds, values, and ambitions presumably fostered their mutual friendship, their decision to apply to Vanderbilt Medical School, and their self-selection to form an autopsy group. As for their professional achievements, some type of powerful fertilizer, best adapted to late-bloomers, may well have been applied by



the faculty here as well as by attendings during their residencies. It is a certainty that a whopping dose of said fertilizer was administered by Dr. Shapiro on that night in 1950 when some intestine slithered down the sink and these students faced their first professional crisis. **VM**

Pictured here, left to right: Drs. Jud Randolph, Bill Edwards, Ed Kimbrough and Jim Mark at their 25th reunion.

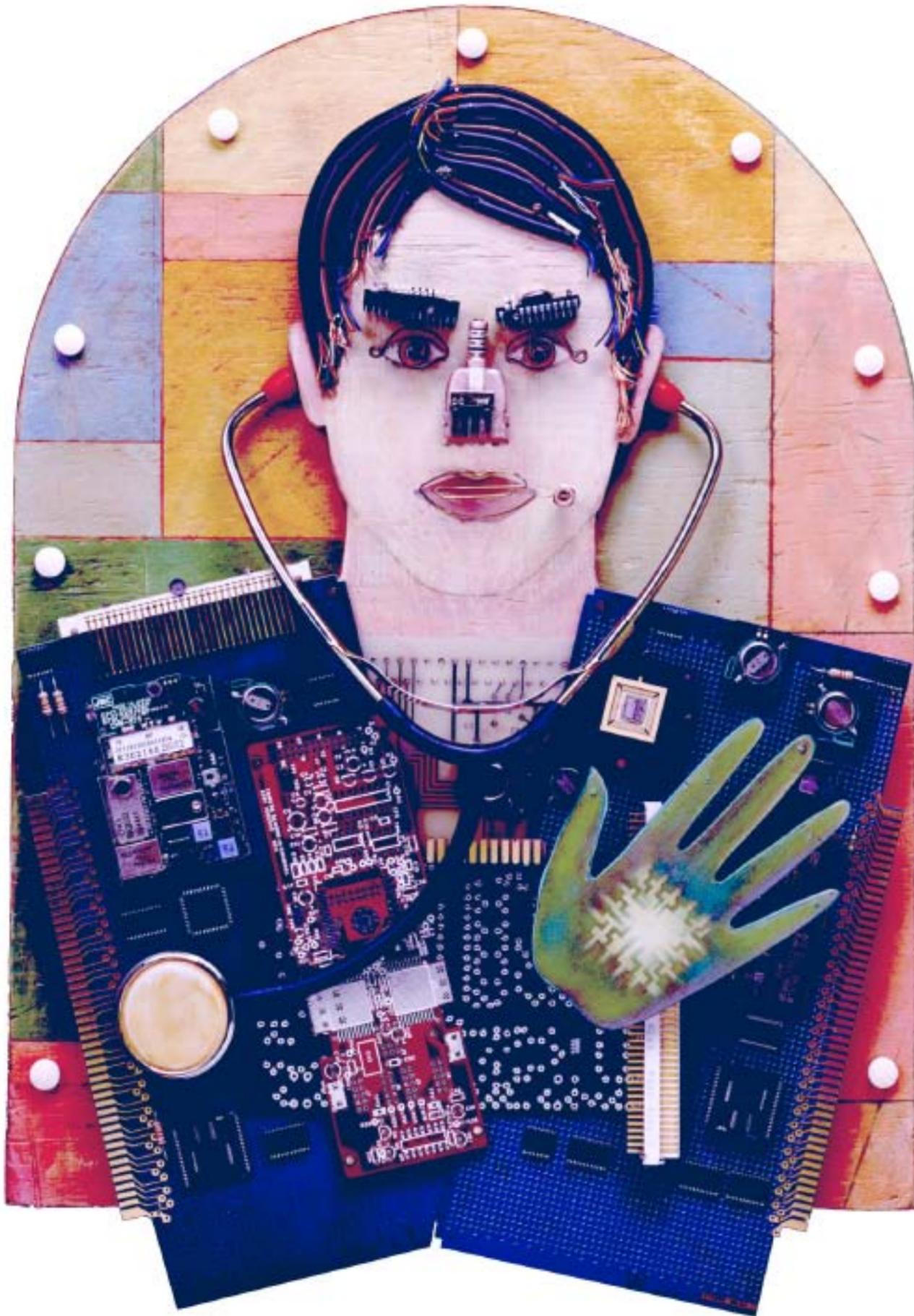
*Editor's note: Robert D. Collins, M.D., is the John L. Shapiro Professor of Pathology. Shapiro graduated from Vanderbilt Medical School in 1941. After military service, he returned to Vanderbilt for a residency in Pathology and was subsequently appointed to the faculty in that department, first as instructor in 1950 and then rising rapidly to the status of full professor in 1955. He is best known for being the most effective teacher at Vanderbilt during this period and for several decades afterwards.*



**Here's a challenge to other alumni. Has any other autopsy group uniformly achieved Top Gun status, regardless of autopsy misadventures? If so, please notify Dr. Robert Collins at (615) 322-0994.**



Picture the scene as first one and then two of his partners gathered at the sink, pulling singly and in concert in a frantic effort to retrieve the specimen for which they were responsible, all the while praying that their remaining partner could divert Dr. Shapiro's attention from the disappearing bowel crisis just a few feet behind his back.



# Biomedical Informatics

WILLIAM GREGG, M.D., ONE OF THE newer faculty members in Vanderbilt University Medical Center's department of Biomedical Informatics, sometimes feels like he's working a giant jigsaw puzzle.

Designing new technology systems that will make patient care safer and the workflow easier for the health care teams taking care of patients is a building process, says Gregg, who joined the faculty in 2003.

"I'm standing on the shoulders of giants. So many people have done such hard work over the years, I'm just kind of here putting some pieces together."

The department is one of the top five in the country, Gregg says, and the Medical Center has some technology that no other in the country has – electronic message baskets or physician and nurse communication tools. "The main thing that is unique about Vanderbilt is that everything is together in one place. We are one of the few places that has this degree of penetration of technology."

It all began with WizOrder.

WRITTEN BY NANCY HUMPHREY (WITH PAUL GOVERN)  
ILLUSTRATION BY MARIA RENDON

**Important functions of WizOrder:**

- Presents the patient's active orders and links to the patient's test results in the electronic medical record
- Has hundreds of packaged diagnosis-and procedure-based order sets reflecting faculty consensus about the best practice
- Draws from the lab and pharmacy systems to present options for dosing based on some of what it knows about the patient, like weight, age, and test results, and an alert is issued immediately for any order that falls outside dosing guidelines
- The patient's known drug allergies are entered upon admission and there is an immediate alert if subsequently a user mistakenly orders an offending drug
- Issues immediate alerts based on other patient-specific contraindications, for example, contraindications of a blood pressure medication because of a test result showing elevated serum potassium.
- Offers an automated decision tree that helps users quickly determine appropriate, and efficient brain imaging modalities.

WizOrder marshals an array of critical information – from specific information on patients, such as age, weight and allergies, to test results to evidence-based clinical protocols to medical reference materials – at the moment that the clinician uses the program to order tests, treatments and drugs. These decision-support capabilities make WizOrder highly effective in guarding patient safety, promoting quality and lowering costs associated with unwanted variability in health care. At Vanderbilt, WizOrder is credited with \$5 million annual reduction in pharmacy costs (excluding the value of adverse drug event prevention) and \$1.1 million in X-ray costs.

WizOrder was developed in the mid-1990s at Vanderbilt by Randy Miller, M.D., and Antoine Geissbuhler, M.D. It is now used on virtually all 882 beds at Vanderbilt. More than 10,000 orders are entered into WizOrder daily, with 70 percent directly entered by physicians and the rest by clinical staff.

Geissbuhler, both a programmer and an internist, became well-known at Vanderbilt for his intellectual brilliance, an especially collaborative working style and amazingly speedy programming. "They claimed that Mozart could write music without revision, without mistakes. Antoine Geissbuhler was a Mozart of informatics," says Miller, professor and past chair of Biomedical Informatics. Geissbuhler left Vanderbilt in 1999 to lead the informatics center at Geneva University Hospitals in his native Switzerland.

At Vanderbilt, computerized physician order entry (CPOE) wasn't just thrown out for consumption. It was designed, tweaked, designed some more, tested by residents, failed miserably, tweaked some more after the design team actually became ward clerks to test the system, and re-tested before it was re-named WizOrder and given a thumbs-up for use. Even 14 months into its implementation many residents still weren't won over. The program has since been widely recognized by users as an unqualified success and as an indispensable aid to clinical decision-making.

WizOrder offers users tips relevant to their order, leads them to more in-depth information, and issues alerts when something doesn't appear right about an order. The alerts come with brief explanations and links to more complete information, and users can override any alert. The application issues around 500 alerts daily and roughly 25 percent of the time, users elect to change the precipitating order.

Before WizOrder, Vanderbilt residents carried a book of dosing and testing guidelines, probably purchased back in medical school and years out of date. They also carried notebooks full of the tips they were discovering about the uses of tests and medications. Each day, unit clerks transcribed residents' handwritten orders by the score. Lab, pharmacy and radiology techs keyed in requisitions by the hundreds. There was inherent delay and error in this transcription and re-transcription of hospital orders. And while WizOrder ends transcription delay and error, its real purpose is the far more complex aim of improving clinical decision-making.

In 2001, Vanderbilt sold rights for commercial development and marketing of WizOrder to Atlanta-based McKessonHBOC, Inc., a Fortune 40 corporation with annual sales of \$42 billion in pharmaceutical supply management and health care information technology. Under the exclusive licensing agreement, Vanderbilt received an initial lump payment from McKessonHBOC as well as a share of revenue from future sales. The WizOrder development team and the School of Medicine shared in the financial deal.

The development and implementation of technology programs to aid clinicians didn't stop with WizOrder.

StarChart, Vanderbilt's electronic medical record, is a user-friendly, up-to-date, comprehensive, electronic medical record with Web-accessible Intranet retrieval tools. It currently has more than 31 million documents.

The system integrates patient data from multiple sources, including lab

results, radiology reports, discharge summaries, anatomic pathology, physician notes, letters, etc. The patient record is displayed as individual reports and easy-to-read spreadsheets.

StarPanel is an integrated application that lets clinicians easily define groups of patients and analyze their health status and course of treatment. StarPanel also gives a clinician immediate access to new results for all of his or her patients.

Both StarChart and StarPanel were developed by Dario Giuse, Ph.D., associate director of the Informatics Center.

"It (Star Panel) allows physicians to look at their population of patients kind of like an epidemiologist would look at it – 'how is my whole population of patients with diabetes doing?'" Gregg said. "You can look at the standard of care. Do I have them on certain medications? Do I do certain testing? Do I have their blood pressure at a certain level? How well am I doing?"

Gregg said that StarPanel helps a physician plan.

"I can try to plan in a more continuous way, rather than just each time I see a patient trying to figure it all out again."

Gregg is also helping to develop a tool called StarTracker that will help physicians automatically track patients, honing down and looking at individual patients and seeing how they do over time, looking at an entire population of patients, then comparing the two. This works within the StarPanel application.

"That's one of the keys to quality improvement, to have that data," he said.

Vanderbilt's Biomedical Informatics department is known worldwide.

In March more than 50 health information technology minds assembled at Vanderbilt's Center for Better Health. A team from Vanderbilt University Medical Center met with Washington congressional staff members and health care leaders, information technology experts, physicians and executives from several federal health-related agencies.

The group met for an unusual and innovative "design session" to discuss and

**Prescription writing, without paper and pen**



A pilot group of Vanderbilt doctors has laid aside pens and prescription pads and is turning instead to the computer to write prescriptions for their patients. A prescription writer program created at Vanderbilt will significantly limit chances for medical error, said the developers and the doctors who are testing it. The program is integrated with the Medical Center's electronic medical record system.

Besides producing prescriptions that are 100 percent legible, the program will automatically check each new prescription against a patient's known problems and other medications, looking for contraindications such as drug allergies and potentially dangerous drug-drug interactions. The program will issue an alert if anything appears wrong with a prescription.

The prescription writer will also eventually use the patient's weight and age (already available from StarPanel) to calculate and recommend a safe and effective dosage.

The program is designed to operate with StarPanel, an application that works off the StarChart electronic medical record application to support more efficient clinic workflow, easier communication of patient information, and quality improvement.

Prescriptions created with the program will automatically show up in the problems section of the patient's electronic medical record, helping to improve communication regarding which Vanderbilt patients are taking which medications. This information can be crucial when a patient lands in the emergency department.

The prescription writer will roll out across Vanderbilt Medical Group within a year, said project director Kevin B. Johnson, M.D., associate professor and vice chair of Biomedical Informatics.

Doctors at Vanderbilt have for several years written inpatient orders, including inpatient medication orders, exclusively with use of networked computers. **VM**

-PAUL GOVERN

explore the needs, opportunities and challenges related to the effective use of information technology in health care.

The event was planned after Sen. Bill Frist (R-Tenn.) met with leaders from VUMC last December to learn about the Medical Center's informatics tools and the results of their use.

VUMC also ranked highest in a 2004 comparison of the strength and

VUMC ranked highest in a 2004 comparison of the strength and functionality of clinical enterprise information technology in use at 22 U.S. medical centers.

Vanderbilt is involved with IBM and other institutions, including Columbia Presbyterian and Wichert Memorial Hospital in a project called the Health Care Collaborative Network.

functionality of clinical enterprise information technology in use at 22 U.S. medical centers. In the comparison, VUMC achieved an IT “functionality score” that was 50 percent above the group average. This finding came from an assessment performed for VUMC by Gartner Inc., a leading analyst of the productivity, efficiency and quality of enterprise information technology.

Finally, Vanderbilt is involved with IBM and other institutions including Columbia Presbyterian and Wichert Memorial Hospital in a project called the Health Care Collaborative Network. It’s a cooperative project with the Center for Medicare/Medicaid Studies, the Food and Drug Administration (FDA) and the Centers for Disease Control (CDC) where

data are captured from the information systems of the participating institutions, and fed through a server, and the agencies are notified, without identifying information, about certain groups of patients – patients who are being treated for heart attacks and have received beta blockers, for example. Currently, that information is received manually from institutions, sometimes four to five months later.

“It’s incumbent as we do these things, to study what we do, to prove that it improves care,” Gregg says. “We can feel good about the things we do, but if we can’t prove that it improves care, we haven’t done anything, and nobody will want to spread this kind of technology. That’s one of our responsibilities.” **VM**

## WEARABLE COMPUTER CREATED BY VANDERBILT

Superman can see through walls, and now anesthesiologists at Vanderbilt University Medical Center can too.

To achieve new levels of safety and efficiency, a team at Vanderbilt has created a program that shows anesthesiologists what is happening in each of the operating rooms they are covering. It’s called Vigilance; it runs on a wearable computer. It’s the first program of its kind anywhere, the developers said.

Development of Vigilance is led by Michael S. Higgins, M.D., associate professor and interim chair of Anesthesiology and executive medical director of perioperative services.

“We’re on the cusp of something really exciting,” he said. “The beauty is, I can know at a glance what’s going on in every room I’m covering.”

Anesthesiologists rove among operating rooms to

supervise anesthesia for two to four patients at a time. They also evaluate patients before surgery and see to patients’ needs in the recovery room after surgery.

Vigilance lets these doctors see information about all their patients while moving around and performing work.

The software also analyzes patient data and sends alerts whenever a patient might be at risk for injury. Vigilance integrates information from multiple pre-existing sources: the operating room’s anesthesia machine, heart monitor and video cameras are connected to Vanderbilt’s secure data network, and surgical teams use in-room workstations to document care and vital signs.

“Seconds can count,” said James M. Berry, M.D., professor of Anesthesiology. “This technology extends our

senses so we can virtually be with each patient we’re following.”

Among the various views in Vigilance, the main screen corresponding with an individual case is divided into quadrants featuring the electronic log of the case (with vital signs), the read-out from the patient’s heart monitor, highlights from the patient’s medical history, and live video images from the operating room. The user also can view checklists for management of acute events, and can pan and zoom the video cameras to get a better view of what is happening.

On the back of a “fanny pack,” the anesthesiologist wears a small computer that is connected by radio signal to Vanderbilt’s secure wireless network.

Weighing only an ounce, the viewer for the computer

perches at the left front of the user’s goggles to provide standard full-color desktop resolution: the visual impression is of a free-floating, transparent reflection the size of a desk-top monitor. Navigation of the program is via a touch-pad worn on the belt (voice-controlled navigation is in the works).

The U.S. Congress is preparing to release research and development funding for a Department of Defense initiative called The Operating Room of the Future.

At the urging of a DOD official who recently came to Vanderbilt to see Vigilance, Higgins and his team have applied for first-year funding of \$4 million to accelerate development of the program. **VM**

—PAUL GOVERN

# Presidential visit focuses on information technology

President George W. Bush visited the Monroe Carell Jr. Children’s Hospital at Vanderbilt and later joined a conversation in Langford Auditorium about health care information technology during a two-hour Medical Center visit in May.

The president learned about Vanderbilt’s strides toward utilizing health care information technology to improve patient care and hospital operations during the afternoon visit.

At the Children’s Hospital, Bush was given a demonstration of Vanderbilt’s hospital clinical information system by Neal Patel, M.D., an attending physician in the Pediatric Critical Care Unit. He served as the co-chair of the information systems design team for the new Children’s Hospital.

Patel demonstrated Vanderbilt’s computer physician order entry system, WizOrder, and StarChart, Vanderbilt’s electronic medical record. He also demonstrated PACS (Vanderbilt’s picture archiving and communications system) which allows X-rays to be viewed at the bedside or on any computer in the hospital.

“The president is putting [health care IT] on the national agenda so that these types of tools can be made available nationwide,” Patel said. “I’m extremely excited that the president is putting a focus upon

improving our ability to deliver high quality of care.”

In the afternoon, Bush was part of a panel discussion in Langford Auditorium titled “A Conversation on Health Care Information Technology.” The discussion was heard by an invitation-only, capacity crowd of approximately 1,000, which included Vanderbilt faculty and staff and other high profile members from the Nashville community.

The panelists were: Jim Jirjis, M.D., assistant professor of Medicine, Bob McNeilly, a past president of the Canby Robinson Society and a patient of Jirjis’; Jennifer Queen, who

is the mother of a Children’s Hospital patient and was a member of the new hospital’s design team; David Brailer, Bush’s national health information technology coordinator; and J.T. Finnell, M.D., an emergency room physician from Indianapolis.

Topics discussed included Bush’s efforts to create electronic medical records for all patients within 10 years, standardize health care terminology throughout the nation’s hospitals, cut medical costs and reduce medical error through the use of IT. **VM**

—JESSICA HOWARD

**President George W. Bush speaks at Langford Auditorium about the new information technology in health care.**



DANIEL DUBOIS



# focus

## on delirium in the ICU

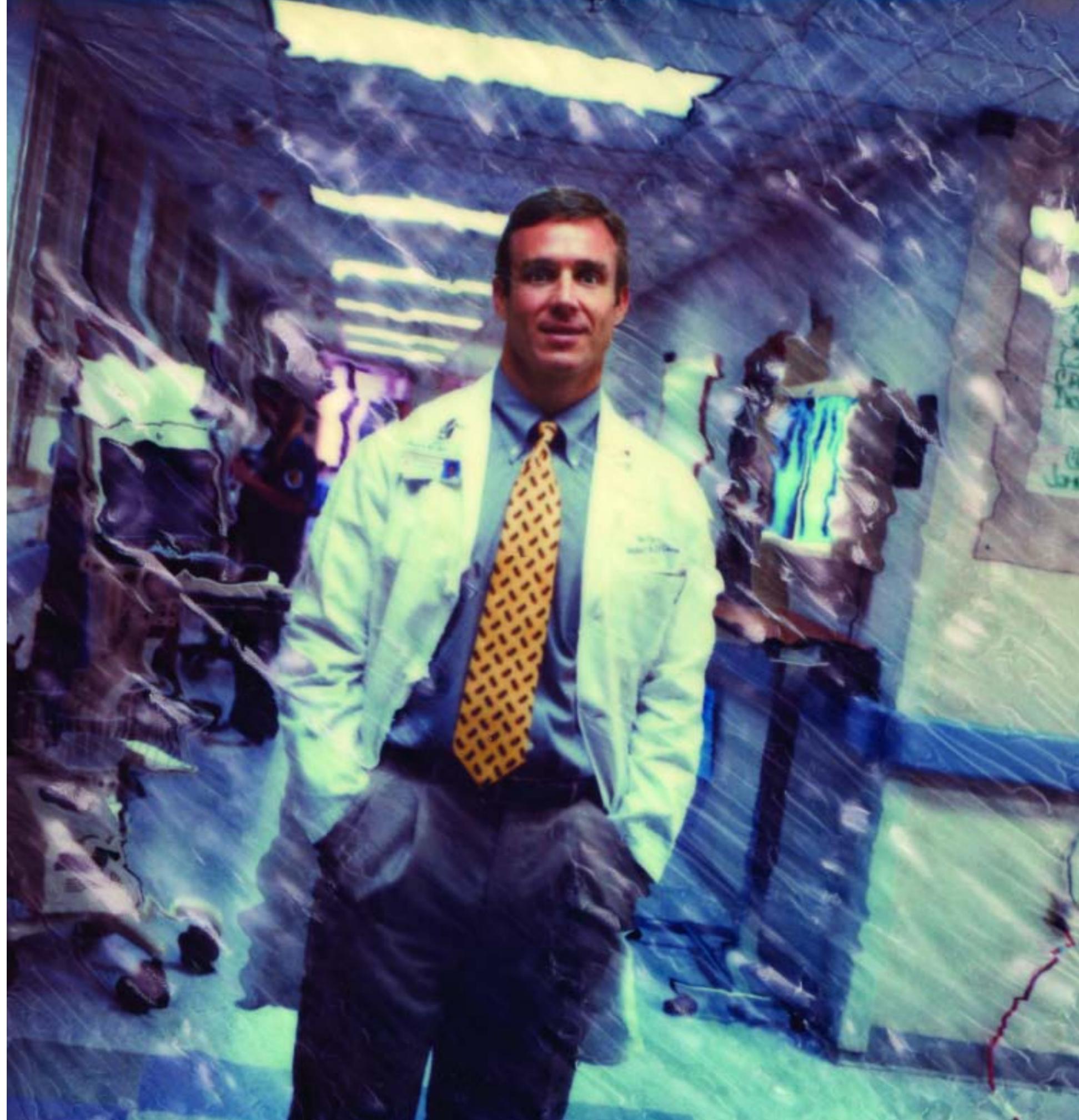
IT SEEMS LIKE SOMETHING that should have been proven before, a thought that occurs after many scientific findings. But studying delirium in the sickest patients is a completely new frontier in medical science, and one that is being led by Vanderbilt scientists.

A Vanderbilt physician and his team who study patients in the intensive care unit have found that the longer a patient is delirious the more likely he is to die.

By detecting a brain dysfunction, known as delirium, in the intensive care unit, health care professionals can better predict the possibility of death among critically ill patients. But despite this knowledge, the detection of delirium in patients is missed by the majority of doctors, nurses and other health care providers.

E. Wesley Ely, M.D. and his team have been responsible for developing protocols for identifying delirium in the ICU as well as measuring and validating a patient's stage of brain dysfunction. Ely, associate professor of Medicine and Research, hypothesizes that tighter control of sedation may contribute to lower

WRITTEN BY NANCY HUMPHREY  
PHOTO ILLUSTRATION BY DEAN DIXON





By detecting a brain dysfunction, known as delirium, in the intensive care unit, health care professionals can better predict the possibility of death among critically ill patients.

rates and duration of delirium. He further believes that the shorter the duration of the delirium, the less likely it is for the patient to have long-term cognitive impairment.

The Vanderbilt physician is well on his way to becoming one of the world's leading authorities on the subject. He is currently the principal investigator of a five-year National Institutes of Health cohort investigation of cognitive impairment in ICU patients, with a focus on delirium and neuropsychological impairment in older survivors of delirium.

"Delirium among critically ill patients occurs at an astounding rate every day in the United States," Ely said. "There are 55,000 mechanically ventilated patients cared for in more than 6,000 ICUs across the country, and daily 60

percent to 80 percent of them will develop delirium. A lot of older people end up going to the ICU with critical illnesses that are potentially life-threatening. They will often survive their illness, only to have profound cognitive problems when they leave the ICU.

"We think the severity and duration of delirium relates to the likelihood of the person living or dying and if the person lives, the severity and duration of the delirium relates to the long-term brain function that person leaves the hospital with. This is a previously untapped area of medical care that is very importantly contributing to the quality of survival."

Last year, Ely and his team at Vanderbilt announced the development of a system to effectively monitor the administration of pain control and sedation to patients in intensive care units – more specifically monitoring the patient's brain during the administration of pain control and sedation. Medical teams have been able to monitor the cardiovascular, pulmonary and renal functions of patients in the ICU, but there was no instrument available to monitor the brain on a frequent and repetitive basis.

Ely, associate professor of Medicine, and associate director of research for the VA Tennessee Valley Geriatric Research Education and Clinical Center (GRECC), joined the Vanderbilt faculty in 1998 and holds a Master of Public Health degree. He and his team took a scale that had already been developed – the Richmond Agitation-Sedation Scale (RASS) and took it to the next level – applying and validating it. The results were published in a July 2003 issue of *The Journal of the American Medical Association* (JAMA). This study was followed by another one published in *JAMA* in April 2004 which concluded that a much lower percentage of ICU patients who experienced delirium were alive six months later.

The Vanderbilt team's protocols for identifying delirium as well as measuring and validating a patient's stage of brain dysfunction have been translated into

Preventing delirium could be the next step, Ely says. The key is making doctors and nurses aware of the problem. Once they're aware they can look out for it, perform simple bedside tests and take steps to reduce or perhaps prevent it.

seven languages and are recommended as a standard of care by the Society for Critical Care Medicine for all patients treated with mechanical ventilation.

"It is surprising but true that the medical community did not have any validated scales to guide sedative use over time within patients in the ICU," Ely said. "We need patients at a safe and comfortable sedation level without being too deeply sedated. Many patients were so deeply sedated that it committed them to the ventilator because the medical team could not tell they were getting better. With RASS, we now have a way that the medical team can communicate succinctly and reliably and provide a goal-directed target for sedation for our patients," he said. "Basically, we can direct the use of these helpful but potentially dangerous medications so that we optimize outcomes for the patients."

This is the first sedation scale to be validated for its ability to detect changes in sedation status over consecutive days of ICU care, against the constructs of level of consciousness and delirium, and correlated with the administered dose of sedative and analgesic medications.

In 2001 Ely received the Paul B. Beeson Career Development Award in Aging Research, sponsored by the

National Institute on Aging, Atlantic Philanthropies, the John A. Hartford Foundation and the Starr Foundation and administered by the National Institute on Aging and the American Federation for Aging Research. He is a 2001-2004 recipient. The awards encourage and assist the development of future leaders in the field of aging by supporting faculty members who are early in their careers or who are poised to establish independent programs in aging research.

Ely says the award says much about the problem and the focus the Vanderbilt research is taking.

"Of the nation's leading experts in aging research, our work has been featured and chosen to be an important new area of work for aging research. Those are some pretty heavy-hitting organizations that strongly endorse this research because they think it's going to impact the care of people not only now but especially as we go into the future with more and more people being older and requiring intensive care and critical care," he said.

Ely's research was featured in the July 5 (Best Hospitals issue) of *U.S. News and World Report*, which focuses on the top medical schools and their research. The article, entitled "You're never too old" cited recent papers about delirium and specifically Ely's April 2004 *JAMA* article.

While the causes and importance of delirium have been considered by scientists for centuries, Ely said delirium research in critically ill ICU patients is very recent. "There has never been a way to monitor critically ill people. If you're intubated, you can't talk. You can't converse. All previous research has systematically excluded the most at-risk group, those on ventilators."

Preventing delirium could be the next step, Ely says. The key is making doctors and nurses aware of the problem. Once they're aware they can look out for it, perform simple bedside tests and take steps to reduce or perhaps prevent it.

His group has designed and is currently conducting three ongoing randomized controlled research studies. One alters the

quantity of sedation. In the study, one arm gets a daily interruption of sedation to see if that will systematically create less delirium and better long-term cognitive function.

The other two studies involve active treatments. One looks at a new sedative drug, dexmedetomidine, versus benzodiazepines. This study will find out if sedation using this approach, via a different receptor in the brain, called the alpha-2 receptor, will be less delirigenic than currently used benzodiazepines. The study has merit because the benzodiazepines work on the GABA receptor, the same receptor hit by chronic alcoholism, which is known to lead to long-term cognitive impairment. In the other study, Ely's group looks at the performance of the anti-psychotic drug, haloperidol, currently the recommended drug of choice for delirium. It has never been tested against a placebo, Ely says. "Nobody really knows how well it works."

The reason behind Ely's research focus is quite simple.

"We all have parents or grandparents who are getting along well in life and are enjoying their daily activities. The main threat to their ability to continue to enjoy life would be that of cognitive decline. We hope this research will help elderly patients who end up having to go to the ICU to have better outcomes once they leave the ICU, that they will know who they are, why they were there, and they will be able to go home, balance the checkbook, go back to work and enjoy their lives." **VM**



# A New Era in Medical Education

As the medical industry provides new challenges, Vanderbilt is ensuring its curriculum makes the grade

THE PACE OF SCIENTIFIC DISCOVERY and the active involvement of patients in the decision-making process are redefining the role of physicians. No longer is it simply “doctor knows best.” More and more, doctors recognize the need to not only check the literature, but also the patient, before deciding on the best treatment plan.

This way of practicing medicine requires a set of skills not traditionally included in the medical school curriculum. With a major curriculum revision under way, Vanderbilt University School of Medicine is adapting its educational program to produce doctors who will thrive in this new medical environment.

“We want to teach our medical students how to practice the safest, highest quality and most evidence-based care,” said Steven G. Gabbe, M.D., dean of the School of Medicine. “As all of us who graduated from medical school years ago know, medical care changes on an almost day-to-day basis as a result of new research and new technological advances. Our students, as they go out into their careers, need to be able to judge the new data, judge the new information, and determine how to apply it – or if they should apply it – to their practices.”

Vanderbilt’s efforts to revitalize the medical school curriculum are reflective of a movement within the health care profession. The Institute of Medicine (IOM), in its Quality Chasm series of reports identified “reform of health professions education critical to enhancing the quality of health care in the United States.” This recommendation came on the heels of the Accreditation Council of Graduate Medical Education (ACGME)

and the American Board of Medical Specialties (ABMS) adopting core competencies that physicians should practice.

In accord with these competencies, the school is focusing on six areas for improvement:

- evidence-based medicine
- lifelong learning
- professionalism
- patient-centered care
- communication skills and cultural competency.
- Vanderbilt is also incorporating new technology into its health care systems, as well as teaching students how to carefully evaluate technological advances.

## Making the most of technology

Medicine and technology have what could be considered a love-hate relationship. Technology has opened many new doors in health care – allowing medical research to be widely available and providing easy access to patient information, for example. But it has brought with it some headaches, such as information overload and the need to adapt to a new way of doing things. The School of Medicine is hoping to alleviate those headaches and turn this relationship around.

Vanderbilt has woven new technology into its practices for the improvement of patient care, and trains students to use these new information technologies. Students use WizOrder, the physician order entry and decision support system, and StarPanel, an electronic medical records system, which have been developed and implemented to help improve workflow and care delivery.

“They are able to get point-in-time access to information,” said Bonnie Miller,

WRITTEN BY LISA PEPPER  
ILLUSTRATION BY BRIAN STAUFFER

## learning the language of disclosure

A 64-year-old patient is admitted for a surgical procedure and the attending surgeon requests insertion of a central line. The surgery goes well, and in the afternoon the patient is taken to the recovery room. The family is told that their loved one should make a full recovery.

However, early the next morning, the patient develops evidence of shock and experiences an arrest. Best efforts of resuscitation fail. The family is in the waiting area, and the attending surgeon must now tell the family members about the death of their loved one.

How does the medical professional approach challenging situations such as the one described? What if a brief review of the case suggests that the patient may have experienced an error that may or may not have contributed to the death? How much information is shared with the family, and when? What if the family presses immediately for details about which the physician may have some uncertainty? What may other members of the health team say to families? Are these messages consistent?

These represent some of the challenges that Vanderbilt medical students are expected to face in a course called "Malpractice and Communication Skills for Difficult Situations" which has been developed and delivered by members of the Center for Patient and Professional Advocacy (CPPA).

Gerald B. Hickson, M.D., associate dean for Clinical Affairs and director of the Center for Patient and Professional Advocacy, and the Center's Co-Director James Pichert, Ph.D., lead the class in simulated exercises where students are given scenarios like the one above, and asked how they would handle the challenges.

After each case scenario, the classes are led through discussions where the faculty instruct students how to structure difficult interactions, deal with patients' reactions to bad news, present information when the medical professionals believe that they have erred, or present information when they think another health care professional has made a mistake.

"We want medical professionals to understand how and

when information should be shared in ways that promote full data sharing, but without pointing fingers or assigning blame when all the information may not be available," Hickson said.

Pichert and Hickson have been teaching this program to Vanderbilt medical students for more than a decade, but with the establishment of the CPPA and increasing interest in medical errors, demand for the program is growing. Within the past two years, professionals associated with the Center have delivered training in disclosure to thousands of medical professionals as well as large national professional organizations.

"Our goal is to initiate dialogue among health professionals about the challenges of sharing difficult information with families. Our fear is that so often medical professionals are untrained, and therefore simply don't know what to do

when they face the inevitable challenge of a bad patient outcome," Hickson said. "We believe that like other medical skills, skills around disclosure can be developed, as long as organizations are committed to this important education mission." VM

M.D., associate dean for Medical Students. "They are getting so well-trained, that they get in the habit of using evidence-based medicine."

Beyond simply learning how to use information programs in the clinical environment, Vanderbilt medical students are learning how to take advantage of the wealth of technology – avoiding information overload and finding relevant information in a timely fashion.

The Medical School is also using technology to evaluate and improve the curriculum.

"We continue to think that teachers are our best asset, and in keeping with this attitude, we have developed some products to capture what teachers are doing," said Anderson Spickard III, M.D., assistant professor of Medicine and Biomedical Informatics and Master Clinical Teacher.

One such product is KnowledgeMap, a database of all the documents used in the curriculum, which represents what teachers are teaching. The database is searchable and all medical concepts taught can be found on the database. Students are able to see where a concept is covered throughout the curriculum and can quickly find information regarding the concept.

"Not only is this program great for students, it allows teachers and administrators to track what is being taught, allowing them to determine if there are any gaps," Spickard said.

Another program in development will help students keep track of their clinical experiences. Web-based repositories, called Learning Portfolios, would let students record their clinical experiences. Students would enter their reports, daily notes and other normal day-to-day work into the program, collecting and organizing what they have been exposed to during their clinical rotations.

"The hope is to capture this, and be able to quickly surmise what clinical

concepts students have covered, and also what they haven't," Spickard said. "This gives us the opportunity to put them in clinical situations where they will get the experience they may have missed."

Another thought is to add a reflection section to the Learning Portfolios, allowing students to include their own personal reflections and perceived needs in learning, which would be reviewed with a mentor.

"The idea of self-directed learning is important, especially with the overload of information students get today," Spickard said.

The overload of information is also changing the way the Medical School looks at the teacher-student relationship.

"Students can't know it all," Spickard explained. "The new role of teachers is to determine what the students need to know, what they can look up, and how they can look it up. Teachers are now coaches, as well."

Paul Keckley, Ph.D., director of the Vanderbilt Center for Evidence-based Medicine, agreed. "We need to move from teaching students what to know, to teaching them how to learn."

This, he said, means incorporating more technology and teaching students how to make the most of the technology.

"Vanderbilt is making some very positive changes in the core curriculum. I don't think anyone feels that technology is the end in itself – it's the means to the end," Keckley said.

### Teaching the art of articulation

Improving physician-patient communication is another mean to the end of higher quality health care. Vanderbilt University School of Medicine wants to be certain the doctors it graduates master communication skills, which will benefit patients, health care centers, and the

## Partnering with Patients, the Key to Improving Health Care

**Promoting quality health care requires partnership between patients and their health professionals – a collaboration in care. When patients and physicians work together, they enhance their personal health care experiences, and improve Medicine as a whole.**

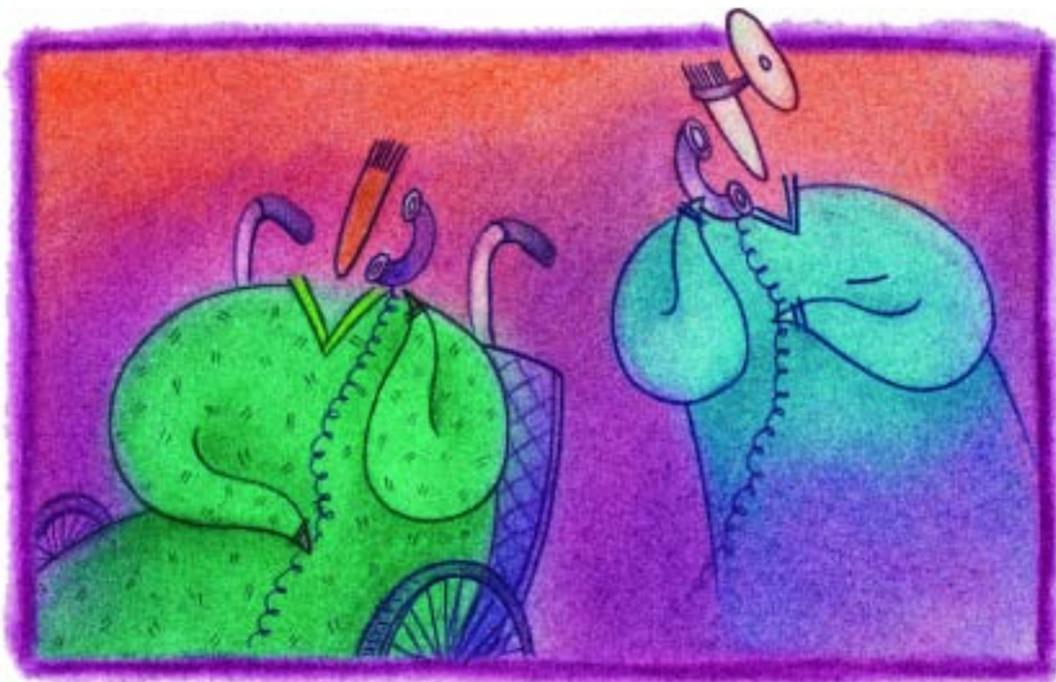
**Vanderbilt's Center for Patient & Professional Advocacy (CPPA) was established in March 2003 to promote improvements in medicine by encouraging health professionals to listen to their patients, foster good relationships, and communicate effectively.**

**According to Gerald B. Hickson, M.D., associate dean for Clinical Affairs and director of the CPPA, this means engaging patients in the health care process by eliciting their observations of care.**

**"Families are great observers, and may see things about how we are doing that we don't recognize ourselves. Patients' observations and complaints about their health care experiences may be used, if appropriately handled, to identify areas for process improvement, and to identify physicians who are at increased risk for malpractice claims.**

**"There are a number of bad things that can happen when we fail to address sources of patient dissatisfaction. Dissatisfied patients are less likely to follow medical advice, more likely to drop out, complain to their friends, and in the face of bad outcomes file suit."**

**The Center is also involved with several medical centers nationally, helping them use their own patient complaint data to improve services. VM**



Vanderbilt has instituted **new technology** into its practices for the improvement of patient care, and trains students to use these programs.



## No longer cookbook medicine

It's undeniable that the health care community is undergoing a significant transformation – a transformation that demands the 21st century physician to acquire a set of skills that traditional medical education did not

provide. Leading this transformation is evidence-based medicine, the practice of applying scientific knowledge in tandem with patient preferences and values.

"It's not cookbook medicine; it is an ongoing process of integrating evidence with the clinical training and expertise for the care of patients," said Paul H. Keckley, Ph.D., executive director for the Vanderbilt Center for Evidence-based Medicine. "In evidence-based practice, clinicians act as coaches and share in the decision-making with patients."

The transformation comes from problems seen in modern practice, such as the notable gap between knowledge and practice. A 2003 study sponsored by the National Committee for Quality Health Care concluded that it takes 17 years to turn 14 percent of original research to the benefit of patient care.

According to Keckley, this lag can be credited to: the difficulty of staying abreast of an ever-growing body of research; a lack of adequate tools and technologies to stay up-to-date; and the fact that some clinicians prefer to practice out of habit rather than apply new scientific findings.

In order for health care to really work, though, having the best research regarding the problem and its solution is only part of the equation. Patient involvement is also pertinent. With the traditional patient care model, only one in three patients adheres to the treatment plan their physician provides. When the patient is engaged in the decision-making process, their probability for adherence greatly increases.

"It's a matter of asking 'Do I treat consumers as rational people who can make judgments about care and need coaching to do so? Or, do I treat them as passive, unengaged patients who are going to do what I tell them?'" Keckley said.

The Vanderbilt Center for Evidence-based Medicine is working to help Vanderbilt physicians answer this question. Since it was founded in 2003, the Center has collaborated with faculty and staff to promote an understanding and adoption of evidence-based medicine. The Center is also involved in curriculum development and other interdisciplinary programs.

"Every doctor wants to practice evidence-based medicine, some just need help to keep abreast of the sciences," Keckley said. "Vanderbilt is making some pretty significant changes to ensure they receive this help and provide the best care possible." **VM**

-LISA PEPER

physicians' own careers. Though some people have an easier time than others, communication is something that can be improved upon through education.

Rising third-year student Claire Turchi thought communicating with patients would be easy. With a social work background, she assumed she really didn't have much to learn in that area. Then she shadowed a resident in the Emergency Department for a day.

"I watched him interact with patients, and I realized then how much I had to learn," Turchi said. "He calmed a pregnant woman who was worried about losing her baby, and another woman who had unexplained bleeding. There was also a patient there with psychological issues, and the resident had to figure out why she was in the ED. It just struck me that day – it's not just knowledge. There are so many skills you need to learn in medical school, including how to communicate with patients."

For the past year, James Pichert, M.D., associate professor of Medicine, and Lynn Webb, Ph.D., chief of staff for the Dean's Office, have been a part of a Case Western University/ Macy Institute demonstration project on methods to enhance curriculum in physician-patient communication.

"Research has shown that effective communication enhances clinical outcomes, improves diagnostic accuracy and patient adherence, and enhances patient satisfaction," Webb said. These results, he said, make communication skills an essential part of a medical education.

Webb also leads a four-hour communication skills workshop for second-year students to help prepare them for their clinical years. This year, the workshop, one of many ways communication is being implemented into the curriculum, will be included as a regular component of the physical diagnosis course.

"Our goal over the next year is to develop a common model for discussing communication so that students recognize

Vanderbilt is one of 10 **founding members** of an effort by the Institute of Healthcare Improvement to bring the curriculum of safety and quality of care to medical education.

common themes and techniques throughout their four years as they build their interviewing skills," Webb said.

### Safety involves all levels of the totem pole

Beyond communicating with patients, high quality, safe patient care demands that medical professionals communicate well with each other. Though human error is unavoidable, a team that communicates well can almost eliminate this error. And poor team communication can be disastrous – in fact, 70 percent to 80 percent of medical mishaps are caused by issues related to interpersonal interactions.

Vanderbilt University Medical Center is improving safety and preventing human errors with help from Crew Training International, Inc., a Memphis-based provider of Crew Resource Management (CRM) training. CRM training is based on safety practices used throughout the U.S. military and commercial aviation. Vanderbilt has committed to training the entire faculty and staff who work with patients, including all third-year medical students.

"If you're going to change a culture of care, you have to teach the future," said F. Andrew Gaffney, M.D., associate dean for Clinical Affairs and chief quality and safety officer. "Students today will be the interns and residents of tomorrow, and the faculty of the future. It would be foolish not to include our students."

The one-day course teaches participants where patient-safety breakdowns tend to occur, and good habits for avoiding them. The topics include team building, recognizing adverse situations, cross-checking and communication, decision-making and performance feedback.

The course stresses being open to input from every member of a team, as well as the need for all team members to speak up if he or she sees a threat to patient safety.

"Looking at medical errors, in almost every situation someone has the right information – it just hasn't been communicated. Someone on the team will say 'I knew this was going to happen' and either they didn't voice their concern or someone didn't listen when they voiced it. This is what we don't want to have happen at our hospital," Gaffney said.

For medical students, this is an important part of the training. The course teaches not only when to voice concerns in a clinical setting, but also how to present these concerns in a respectful, effective manner.

"Being a medical student, sometimes you don't know what your role is within the context of the team. The old adage goes – med students should be seen and not heard – and often we are relegated to the bottom of the totem pole. And we don't often voice our opinions and concerns in regards to a patient's health and safety," said fourth-year student Nikhil Desai. "This training reinforces that we are an integral part of any team, and when the situation calls for it, we should voice our concerns and opinions and be an active member. And hopefully this helps other people realize that a medical student can be an essential part of that team."

Not only do students learn to speak up, they also learn how to listen to other members of the health care team, said Rhea Seddon, M.D., assistant chief medical officer. "And by listening, they can make best use of all the valuable resources around them," she said.

The training has already proven successful at Vanderbilt, with safer practice already evident. But Seddon said another goal is to spread these concepts beyond Vanderbilt in the interest of patient safety everywhere. Training medical students, 85 percent of who will go to other hospitals for their residencies, is an important part of that goal. Desai, who plans to be a sur-

geon, agreed. He will take this training with him throughout his medical career.

"I know now how I should view my colleagues and support staff, and how important they are to me and to the case, and I realize that open communication is essential on both sides of the operating curtain." Desai said.

### Building a foundation

Vanderbilt University School of Medicine leadership hopes its various efforts to improve its curriculum will produce doctors who practice the highest level of medical care. With the goal of furthering medical education, they are also trying to help other medical schools revise their curriculum.

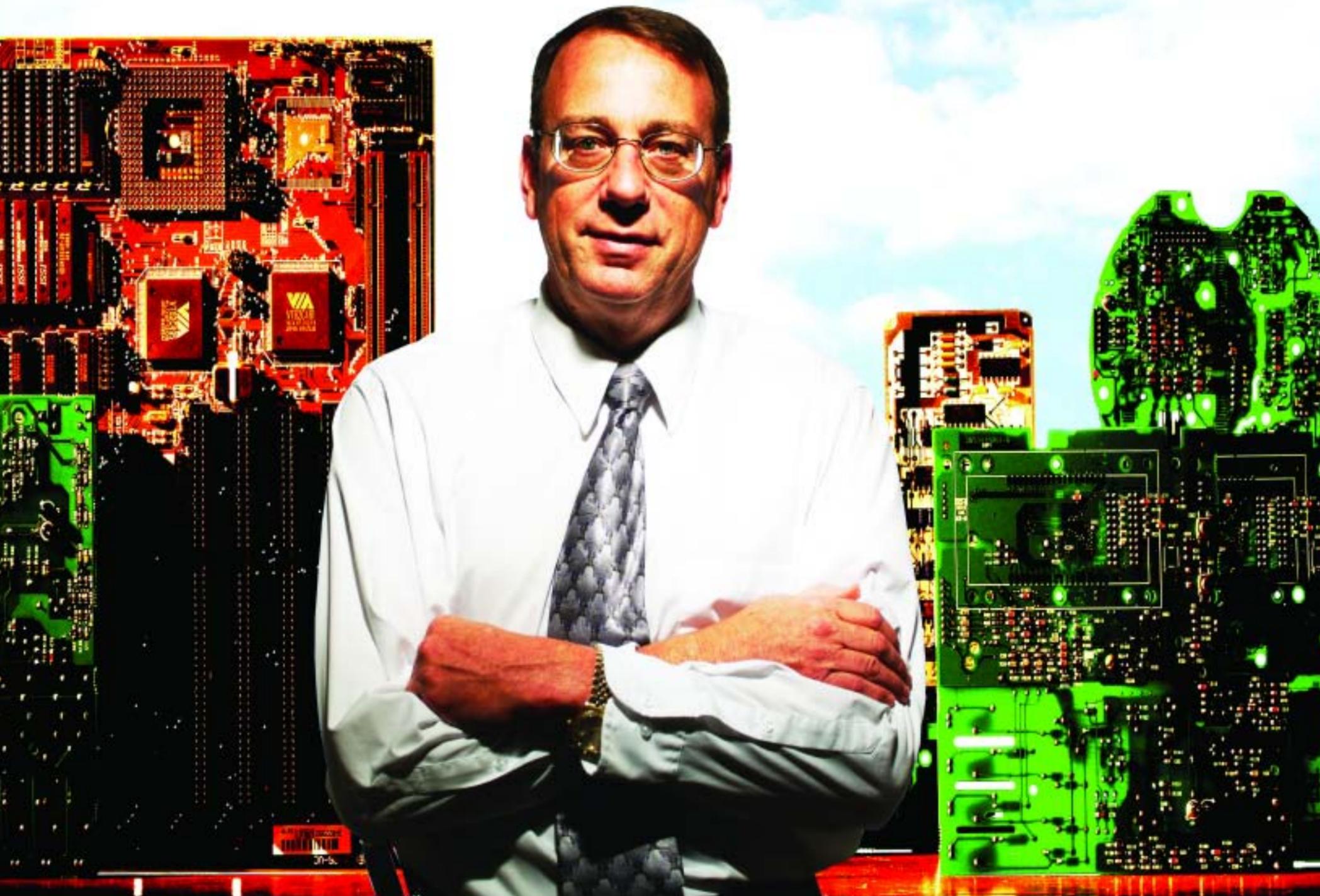
"Vanderbilt is one of 10 founding members of an effort by the Institute of Healthcare Improvement to bring the curriculum of safety and quality of care to medical education," Gabbe said. "We are sharing our ideas and learning from other members of the collaborative, and together, we are preparing a paper to help other medical schools develop similar programs – sort of a 'how to' guide to curriculum changes that enhance safety and quality of medical care."

Vanderbilt's curriculum changes will continue to unfold over the next three years. Along with the above-mentioned programs, several others are being evaluated, and a taskforce is carefully considering each change. Turchi, who is a student member of the taskforce, said the goal is to build upon the strengths of the current curriculum, but keep the basics at heart.

"Medical school is about building a foundation," she said. "It's not only knowledge, it's providing students with the skills to build more knowledge." **VM**

The Consummate

# Systems Builder



PICTURED LEFT:  
**BILL STEAD, M.D.**

feature ::

Perfect quality would mean aligning practice with the limits of biological knowledge. Bill Stead is helping to put Vanderbilt on a course to learn how quality of that sort might be achieved.

BILL STEAD, M.D., DISDAINS SCHOOLS. He is not at all keen on diplomas as certificates of expertise, and he appears to regard the typical pains and trials of the doctoral dissertation as so much outmoded rigmarole. His fundamental view is that people generally learn on their own, and they are too often hindered along the way by an educational system that places far too much emphasis on the steps the learner must pass through while placing too little emphasis on the learning itself.

If Stead appears more than a wee bit suspicious of traditional academic laurels, he comes by that attitude honestly. His career has transpired entirely within academic medicine; as the founding editor of his field's leading journal, *Journal of the American Medical Informatics Association*, and as an electee to the National Academies' Institute of Medicine, he is the ultimate academic insider.

Many of Stead's long-held views are destined to have increasing currency as clinicians, educators and policy makers work to discover how information technology can best help improve our system of care. To illustrate how he thinks education is going to change, he points first to that prime disseminator of new knowledge, the academic journal. Papers are submitted, experts make comments, ideas are revised, presses run. Citations ensue. Stead thinks the process hides from view critical points in the evolution of knowledge. "Say I were to publish my paper directly on the Web," he said. "People begin to comment, and if I change something, people see the changes. Now, putting aside privacy considerations, let's also suppose that identities aren't hidden, that we know the sources of the comments." The eventual result would be "a web of discovery," he said gleefully. "We could sit back and find how multiple brains work together."

He foresees a time when institutions will no longer rely on the diploma as a lifetime credential. "The system is going to flip," he said, "computers will be used to track what people are doing, their outcomes, their current proven competency." Education in general will grow to be less about instruction, more about "shaping a learning experience," and physicians will rely more than ever on abilities to find the latest evidence to inform clinical decision-making, Stead says.

WRITTEN BY PAUL GOVERN  
PHOTO ILLUSTRATION BY DEAN DIXON

It's one thing to hear visions of the technological future spilling forth from the popular press, quite another to hear them delivered in reasoned ways by someone who has accomplished so much on the leading edge of biomedical informatics.

Stead, 56, is an unassuming but outspoken and articulate presence at Vanderbilt. Crossing the campus, his rangy frame and preference for short-sleeved shirts help to mark him out. Starting from scratch after arriving from Duke University 13 years ago, he assembled a team and set out a vision that has most notably resulted in an electronic patient chart, electronic clinical decision support that is neatly tied into the inpatient ordering process, and what is arguably his field's top academic program. Through partnerships with a handful of forward-looking clinical leaders, his group has made the hospital and clinic a leading test bed for the use of computers in clinical settings.

Policy makers are increasingly taking an interest in what Stead is up to: President George W. Bush recently came to witness VUMC advancements in biomedical informatics; congressional health committee staffers huddled for a learning session at Stead's Vanderbilt Center for Better Health; Tennessee Governor Phil Bredesen has looked to Stead for help to improve the system of care for the state's Medicaid population; and Michael Powell, commissioner of the Federal Communications Commission has visited to learn more about the demands health informatics will place on the nation's communications infrastructure.

Stead has recently entered on a new phase of long-term work that will see the regionalization of patient records in Tennessee, the weaving of genomic and proteomic patient information into the Vanderbilt system for clinical decision support, and a Vanderbilt system for quality that will help clinicians track the outcome of every case and use that information to improve practice.

**Quiet and focused**

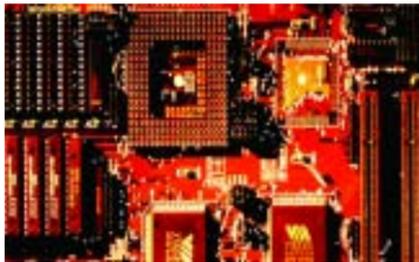
Stacks of papers having to do with current projects disappear neatly behind sliding whiteboards in his new office, located off campus at the Vanderbilt Center for Better Health, where he is the founding chairman. Janet Stead, his wife of 27 years, says he once organized her spices alphabetically; she added that when he hinted at doing the same for her car tape collection, she threatened to drop him off on the roadside. They live on a golf course, which Stead uses only to walk the dog, never having taken up the game himself. His zone of recreation is around their vacation house on 100 lakeside acres 90 minutes east of Nashville. Water-skiing, outdoor projects and cooking over a wood fire are the chief pursuits.

The Steads have one child, Elizabeth, 20, who is studying education at Lipscomb University in Nashville, having overcome the learning disability that she and her father share.

"He's sort of quiet; people who don't get to know him don't realize how funny and fun-loving he can be," said Carol Aronson, Stead's longtime administrative assistant. "He's not shy, it's just that he's so focused on what he's doing."

In addition to overseeing the Vanderbilt Center for Better Health ([www.mc.vanderbilt.edu/vcbh/](http://www.mc.vanderbilt.edu/vcbh/)), Stead is chief information architect for Vanderbilt University, a member of the vice chancellor's leadership team, and director of the VUMC Informatics Center, a sprawling educational, clinical and research venture including everything from Eskind Biomedical Library to IT infrastructure to clinical and business systems development.

"The thing I liked about Bill from the beginning was that he was not interested in computers for their own sake," said Roscoe R. (Ike) Robinson, M.D., vice chancellor emeritus, who oversaw Stead's training in nephrology at Duke and later brought him to VUMC. Robinson was interviewed shortly before his death in August. "He's not off doing some fancy thing with computers that



Many of Stead's long-held views are destined to have increasing currency as clinicians, educators and policy makers work to discover how information technology can best help improve our system of care.

<<The team>>



**Dario Giuse, Ph.D.**, associate director of the Informatics Center, has learned how to bring together massive numbers of documents into a single, easily navigated patient chart, with built-in features to assist smooth hand-offs of information among members of the clinical team. Giuse is the designer of VUMC's medical records applications.



**Nancy Lorenzi, Ph.D.**, assistant vice chancellor for Health Affairs, is an international expert on the intersection of informatics and organizations. By helping users and system developers communicate, Lorenzi works to ensure that the resulting technology is accepted and valued across the organization and that opportunities to improve work in the hospital and clinic are not missed.



One of only a handful of physicians with training in library science, **Nunzia Giuse, M.D.**, director of the Eskind Biomedical Library, has led in defining a new role for librarians in academic medical centers. Eskind librarians are full members of the clinical team, rounding with the team and searching out and filtering evidence for tackling patient problems.



To focus more on research and clinical decision support, **Randy Miller, M.D.**, recently stepped down as founding chairman of the department of Biomedical Informatics. His areas include representing knowledge for use by both computers and people, establishing relationships among pieces of knowledge, and learning how best to deliver knowledge to clinicians. Miller is the only person in the world who would rank among the top experts in all three areas, Stead said.

**"I know there are a lot of people around this place who are uncomfortable with me and what I'm trying to do — that's been true my whole life. In the end, you have to be able to go against the tide."**

doesn't benefit the human race. He wanted to create applications that physicians would use in their everyday practice, programs that would make the place run better. That's unusual."

The projects that interest Stead have tended to involve considerable risk. It's well-known that he has weathered some controversy at VUMC, but it was still a surprise to hear him say recently, "People on the national scene thought that Vanderbilt's investment in biomedical informatics would stop when Ike stepped down." (Robinson retired as vice chancellor in 1997, six years into Stead's tenure here.)

"A lot of people at Vanderbilt think they're experts in information technology," said Robinson's successor as vice chancellor, Harry Jacobson, M.D. "The biggest challenge that Bill and my support of him have faced has been around getting people to let go and trust that he and his group really are the best experts for the job." Only in the past few years have rank and file faculty come to value fully the changes Stead has helped to shape. "He's willing to go out on a limb when nobody else thinks something can be done and he thinks it can be," Janet Stead says.

In pursuit of his vision, Stead has shown that he will work with anyone at any level of the organization. It's also clear that he will accept his share of adversity. "You have to be willing to be

different," he said. "Look around, I don't have a lot of friends here. I know there are a lot of people around this place who are uncomfortable with me and what I'm trying to do — that's been true my whole life. In the end, you have to be able to go against the tide."

Among the family photos, commemorative plaques and, yes, diplomas that cover the walls in his office, there hangs a simply framed document certifying him as an Eagle Scout. He initially rejected scouting's top distinction; with only one merit badge left to go, he suddenly balked. "I was in my stubborn phase," he said. "It seemed to me what mattered about scouting was what I did, not some arbitrary line in the ground." He was determined to ignore his mother's urgings in the matter, and he is still grateful for the influence exerted at that time by a doctor, one of his father's trainees, who sat him down and persuaded him that he was being silly. When he made Eagle Scout, the doctor sent a congratulatory telegram, which Stead still keeps.

#### A compensating affinity for patterns

Stead recalls that when he first heard about negative numbers from his father, he thought the idea ludicrous and believed he was surely being teased.

He grew up in a house on the Duke campus, where his father, Eugene Stead Jr., M.D., was chairman of the department of Medicine. As a young student, Stead found disconnected details to be strangely elusive.

His learning disorder remained undetermined until many years later when his daughter was diagnosed with the same problem. He says he has never learned well in the classroom.

Stead's disorder is characterized by a compensating affinity for patterns, which eventually helped him excel in academics. He was also fortunate that, as he entered high school, his parents moved him out of private school to Durham High, a large public school, where he found it easy to excel, freeing time to dig into subjects of interest.

He describes his undergraduate career as "U-shaped." After finishing sixth among the Duke freshman class, his performance slumped. "As a sophomore I was devoted to wine, women and song, not necessarily in that order." A math class taken the following summer introduced him to programming. "I became intrigued by the freedom to keep altering programs until I found the best solution, something you can't do with a patient or with most physical things." Spending late nights honing programs to make them run faster, he remained so fascinated by the computer that his overall performance continued to suffer.

As a work-study programmer for Duke's cardiac research unit, Stead saw that doctors would be making all the important decisions about the use of computers in medicine, which made him think about applying to medical school. To help cinch admission he made straight A's his senior year, earning a chemistry degree, then became the only person ever to complete Duke Medical School in three calendar years.

Stead's interest was always interactivity, the interplay between users and programs. Three early projects helped to form his vision of what can be done with computers in clinical settings. The cardiovascular patient registry that he helped create as an undergraduate produced information that changed practice for heart attack patients; while still in medical school, he created a program for gathering a medical history and forming initial diagnoses for headache patients; as a young faculty member he was a partner in creating a medical record and practice management program that went into commercial release at 20 sites around the country.

He ran the nephrology unit at the Durham VA Hospital for two years before becoming Duke's chief information officer in 1985. On a Thursday evening in 1991, he finished writing a plan for an information architecture to support an Integrated Advanced Information Management System at Duke. The following Monday

morning he reported to work at VUMC, where he quickly won a \$2.9 million grant to implement this architecture.

#### Planning and managing with a vision

Stead's affinity for patterns helps to make him a consummate systems builder. At a time when other medical centers were hostage either to monolithic systems that were resistant to modification or to stand-alone systems that were hard to connect, he found a strategy that would leave his designers and their clinical partners free to set out in new directions. His innovation, in short, was to put the information from all the applications in a central repository, independent from, yet accessible to, the applications, allowing new functionality to be purchased and plugged in or developed on-site with less hassle and without upsetting other programs and processes. He regards his approach to information architecture as his chief technical contribution at VUMC.

Few people knew what Stead was up to. As Robinson recalled, "After a couple of years, people started to come to me asking, 'What's this guy doing? I haven't seen any effect or benefit.' ... I was smart enough to know that he knew a lot more about computers than I did, and I gave him a lot of running room."

In 1994, with the attempted introduction of computerized physician order entry at VUMC, Stead gained a higher profile, but not in a good way. "It didn't fly," said Allen Kaiser, M.D., chief of staff and associate chief medical officer. "It came to a screeching halt after residents and faculty basically refused to do it."

"To my knowledge, there has been no area of success in the Informatics Center that has not been the direct result of a failure — we do it fairly often," Stead said, adding, "There is no way that any one of us could have done the things we've done without each other." Always one to give tremendous credit to his team, Stead is fond of saying that, "If Randy [Miller] and Antoine [Geissbuhler] hadn't built

WizOrder [Vanderbilt's order entry application], I would have been fired a long time ago." Team members are equally quick to return the credit. "I've never seen anyone as good at planning and managing with a vision," said Randy Miller, M.D., project leader for physician order entry.

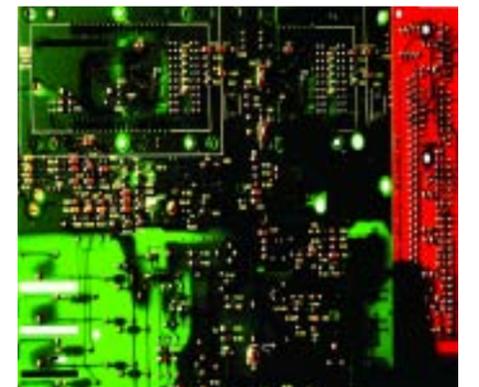
WizOrder has been licensed for commercial development and is now recognized as an unqualified success. Among other benefits, Wiz has been shown to reduce adverse drug events dramatically. StarPanel, another application developed by Stead's team, allows clinics to see easily which of their patients are due for testing and treatment; use of this tool has been quickly greeted by a Blue Cross agreement reimbursing VUMC for a robust program of disease management.

At every critical stage of his education and career, Stead has met with flexible people who let him pursue his vision. "The greatest luck was Harry," he said, referring to Vice Chancellor Jacobson. "We're like two peas in a pod. We think alike, and we want to do the same things."

"Never has there been a greater need for the ability to manage information than in today's academic medical center," Jacobson said. "In retrospect, one of the smartest things Vanderbilt ever did was build an informatics department. ... The difference between Bill Stead and other information technology officers is that the number one question in Bill's mind is always, 'What can make Vanderbilt a better medical center?' — and not, 'What can I get for my shop.' I can trust him. Otherwise we could be pouring money down a rat-hole and not know any better."

Stead observes that technology is secondary to his group's main pursuit, which he says is helping people figure out how to work in new ways. "I'm basically a builder. ... You've got to have a clear vision that can connect with enough people to excite some of them to want to come take the risk of trying to do it. Some will like the vision, others won't. Those who do will realize you can't get there with incremental change."

Stead has long since given up the thrill of kicking off his skis and skimming across the water on his bare feet behind a speedboat. Tricks are out, says Janet Stead, "After all, he is the breadwinner." But Stead has never stopped taking risks. Biomedical informatics at VUMC has all along been touch and go; there has been nothing inevitable about its rapid success. More thrills are in store as Stead and his team focus on the next generation of clinical decision support and on changing evidence-based medicine from a buzzword into a reality. **VM**



**Stead observes that technology is secondary to his group's main pursuit, which he says is helping people figure out how to work in new ways.**

## Roscoe R. "Ike" Robinson dies at 74



Dr. Roscoe Ross "Ike" Robinson, 74, died Aug. 7 after a lengthy illness. A 1954 graduate of the University of Oklahoma Medical School, Dr. Robinson received his post-graduate training at Duke University and Columbia University. He then spent 24 years working at Duke, where he started and headed its first Division of Nephrology and where he later served as the Chief Executive Officer of Duke Hospital.

In 1981, Dr. Robinson came to Vanderbilt as vice chancellor for Health Affairs, a position he held until 1997. Under his leadership, Vanderbilt experienced a period of major growth and development in the areas of patient care, faculty, facilities, and research.

"Ike governed the Vanderbilt University Medical Center during the turbulent and uncertain times of the 1980s and 1990s with a combination of bold strategy, meticulous attention to detail and 'country doctor' personality," said Joe B. Wyatt, Chancellor Emeritus of Vanderbilt University. "But his often homespun persona could be displaced in a heartbeat by riveting rhetoric describing a cutting-edge area of medical research or a complex issue of medical care, always in a vocabulary tailored to his audience, whether medical professionals or community volunteers. He inspired, he explained and he cajoled — whatever it took to lead the vast constituency that needed persuasion to do what he was convinced needed to be done."

Wyatt said that there was "complete trust" between him and Dr. Robinson as they worked together on Medical Center issues.

"If we disagreed, we did so privately until we could come to a mutual understanding or move on," Wyatt said. "And never did a disagreement on one matter contaminate the discussion of another. Ike realized the value of our relationship to the progress of the Medical Center and

the entire University as the medical sciences became more and more interdisciplinary and interdependent with the biological sciences, physics, chemistry and engineering. And Vanderbilt's exhilarating progress, in all dimensions over the past two decades, can in large part be connected to the multifaceted life and times of Ike Robinson."

Upon his retirement, Vanderbilt and friends recognized his contributions to the university by the establishment in his name of two endowed chairs, a lectureship, and a library collection. In addition, the Ann and Roscoe Robinson Medical Research Building was named in his honor. Dr. Robinson was the recipient of many awards and honors recognizing his work in academic medicine and as a civic leader. He served as president of both the American and International Societies of Nephrology, was a past chairman of the Nephrology Board, and was the founding editor of the most prestigious journal in nephrology, *Kidney International*.

He was a trustee at Duke University, a life trustee at Montgomery Bell Academy in Nashville, and a past member of the boards of Cheekwood, the YMCA, the United Way, and Hospital Hospitality House, all in Nashville. He served on the boards of Sun Health, Inc., ClinTrials, Inc., and First American Corporation.

He is survived by his wife of 52 years, Ann Allen Robinson, an active participant in her husband's career as well as a tireless worker for Vanderbilt Children's Hospital and other charities; and two daughters, Brooke Robinson of Nashville, and Susan Solberg of Baltimore, Md. Two grandchildren, John Robinson Solberg and Sarah Allen Solberg, both of Baltimore, and his sister, Lucy Hill of San Marcos, Texas, also survive him.

Donations can be made to the Robinson Medical Student Scholarship Fund at Vanderbilt, Vanderbilt University Gift Processing, Vanderbilt University, P.O. Box Station B, Nashville, Tenn., 37235-7727, or to the charity of the donor's choice. **VM**

—NANCY HUMPHREY

# CRS

THE CANBY ROBINSON SOCIETY

## SPECIAL SECTION

### President's Corner

A new school year is under way and once again the Canby Robinson Society was able to enhance what the Medical Center accomplishes by awarding full tuition plus stipend to three M.D. scholars and two M.D./Ph.D. scholars. Each of these exceptional students has already demonstrated outstanding qualities of leadership, scholarship

and a passion for the field of medicine.

On May 13, at Class Day preceding graduation, the Canby Robinson Society presented an award to the "Ideal Doctor," the person who fellow classmates select as the one they would most like to have as their personal physician. Since there was a tie, the award was presented to two graduating students: Leigh Simmons and Andrew White.

For their next level of training, CRS scholars who graduated in May matched as follows: Elise Cornet, Adult and

Child Psychiatry, Massachusetts General Hospital; Ontario Lau, Otolaryngology at UCLA; C.E. Smith, Radiology at Vanderbilt; Ruth Ann Vleugels, Dermatology at Massachusetts General Hospital. Each is an incredible person of whom we are very proud.



Fran Hardcastle

Children's Hospital at Vanderbilt — the facility itself, the technology within, the minds and hearts that spend their days and nights healing and comforting.

The Canby Robinson Society encompasses support of people — medical and research staff, medical students, and you and me, the patients. Our gifts enhance the opportunity for these three sets of people to thrive — for today and tomorrow. It is an important mission. **CRS**

Fran Hardcastle  
President,  
Canby Robinson Society

In August, we welcomed: Laura Altom, University of West Georgia; Dana Guyer, Princeton University; Diana Lemly, Yale University; Mica Bergman, Stanford University (M.D./Ph.D.); Elizabeth Eby, U.C. Berkeley (M.D./Ph.D.)

In addition to support for our renowned Medical School, ranked 15th in the nation, CRS members make possible advances in the field of research, support of the Vanderbilt Ingram Cancer Center, the only comprehensive cancer center in this region, the Monroe Carell Jr.

### A Gift Marked "Do Your Best"



W. Bedford Waters, M.D.

When a young W. Bedford Waters, M.D., opened his toy doctor's bag, it became an entrance into a career that has marked him as an outstanding doctor and as a man who knows how to give gifts.

His road to medical school started with one gift, followed by another, and he has taken care to return the favor. Waters initially received the gift of his mother's admonition to "do your best" — a present that made hard work the key to academic achievement in high school and college resulting in a John D. Rockefeller Scholarship. This led to his second reward from anonymous donors who wanted to match Bedford's ambition with tuition for medical school. Their only stipulation in providing the scholarship — "do your best."

Waters notes that his Vanderbilt mentors, Oscar Crofford, Philip Felts, Robert Collins, and Robert Rhamy, were vital to his academic development, but it was his mother, Irene Bedford

Waters, who was the driving force behind the childhood dream that grew into adult reality. It is this driving force that Waters has packaged in a bequest for other medical students called the Irene Bedford Waters Scholarship Fund. He currently provides yearly stipends used toward scholarships for medical students.

The Waters Scholarship will be one of four medical scholarships available to students underrepresented in medicine; however, the scholarship is structured so that any student striving to excel will be considered.

Waters is pleased with the scholarship structure. "I am glad that I am able to fund this scholarship for students, who hopefully, will succeed in their careers and will do the same and remember Vanderbilt when they are financially able. Again, all I ask, is that you do your best."

The impact these scholarships have at Vanderbilt is significant, as pointed out by Steven Gabbe, M.D., Medical School Dean. "Dr. Waters' generosity has and will continue to enable

(continued on page 36)

## CRS Scholars trade summer vacations for opportunity to help others

Summer is, for many college and graduate students, a time to get a tan and unwind before resuming their hectic schedules in the fall. But VUSM students Kevin Elias, Claire Turchi, Kristina Collins, Katie Cox, Amanda Ackerman, and Christina Shuman, are trading in their months of vacation for a chance to push themselves even further.

Kevin Elias, a rising second-year student, spent this past semester organizing Hike for HIV, a campaign to raise funds and awareness for Tennessee's leading AIDS service organization, Nashville CARES. He also spent countless hours in the gym, training for the walk itself—a 1,723-mile hike along the Pacific Crest Trail. Elias views the momentous task as his duty.

"We have an obligation to look out for our peers. We're looking at the

second generation of HIV. Young people need to understand the effects of the choices they make. They need to be informed," Elias said.

Claire Turchi, program director for the Community Scholars Program and rising third-year student, also has a strong sense of moral obligation when it comes to helping others.

"In most cases, people in community service are meeting needs that would otherwise go unmet," she said. "Over the years I have found that I have really been allowed to stretch myself and grow into new and more demanding roles, precisely because the needs of our community are so numerous that there is room for me to take on as much as I can handle," Turchi said.

Kristina Collins and Katie Cox, both rising second-year students, worked with the Community Scholars Program to start a medical student-run, free clinic in the East Nashville/Bordeaux area.

"Our recent needs assessment of that community revealed that 35 percent of people surveyed do not have health insurance and 83 percent do not feel that basic health services are available in their community. It is so rewarding to devote my time to a project that aims to provide health care to those who need it most," Collins said.

Amanda Ackermann and Christina Shuman decided to take their services beyond the Nashville community by embarking on a medical mission to Peru.

They, along with more than 50 medical and nursing students and over 30 health care providers from the Nashville area constituted the Summer Medical Institute (SMI) of 2004.

This was the SMI's third trip to Cuzco, Peru where they worked with the Hinterlands Health Ministry Group to bring much-needed care to the Quechua Indians. They had nine clinic days, each in a different area of the city, providing medical, dental, eye, and mental care to the residents.

Ackermann, a rising third-year student, said the trip made her more culturally aware as a physician.

"Vanderbilt emphasizes the importance of cultural competency in a physician's development, and so many great physicians and nurses here have shown by their own examples how rewarding it can be to work in countries where medical care is scarce. I decided that the best way to get involved was to begin as soon as possible," Ackerman said.

Though they certainly deserve a vacation, each of these students opted for a more rewarding way to spend the summer months by giving back to others.

CRS — ANNA GIPSON

**Pictured here: Kevin Elias poses with a banner in front of Mount Shasta on the Hike for HIV.**



## Vanderbilt welcomes new Canby Robinson scholars

One reason the title "doctor" is so widely respected around the world is that getting through medical school is no simple feat. Physically, mentally, and emotionally stressful, it is a task that takes a great deal of time, dedication, and of course, money, to accomplish.

Thanks to the Canby Robinson Society, however, a few deserving medical students will have one less thing to worry about. A full scholarship means no financial burden during school, and no impending debt come graduation for this year's recipients Laura Altom, Mica Bergman, Elizabeth Eby, Dana Guyer, and Diana Lemly.

Laura Altom, a 23-year old graduate of the State University of West Georgia,

is grateful for the gift because it will allow her to give back in return.

"Since I wish to pursue a career as a medical missionary, a vocation that will provide little or no income, it would have been extremely challenging to repay loans. Vanderbilt is a wonderful, encouraging institution, and I look forward to pursuing my studies here," Altom said.

Mica Bergman, a 21-year-old Stanford University graduate, also looks forward to her time at Vanderbilt with excitement.

"When I visited Vanderbilt Medical School, I was impressed by the pervasive spirit of collegiality, support, and respect that exists among the students, faculty, and administration. I

am thrilled to be part of this incredibly friendly and intellectually curious community," Bergman said.

Elizabeth Eby, a 22-year-old University of California at Berkeley graduate, who coincidentally rooms with Mica Bergman, says being named a CRS scholar eased her anxieties about the challenges she will face in medical school.

"Knowing that people here had so much faith in my abilities made me realize that they would put their best efforts into training me and the other students, and that was the kind of environment I wanted to join. The more people I meet at Vanderbilt, the more I realize what an amazing honor it is just to be a part of this group, much less to be singled out," Eby said. CRS

— ANNA GIPSON

**The newest Canby Robinson Society scholars are: (back row, left to right) Dana Guyer, Mica Bergman and Laura Altom and (front row, left to right) Elizabeth Eby and Diana Lemly.**





**Robert Mericle**

Robert Mericle, M.D., a Canby Robinson Society Scholar from the Class of 1993, left Vanderbilt to become a Neurological Surgery resident at the University of Florida, and received additional training in Endovascular Neurosurgery during a two-year fellowship at the State University of New York in Buffalo. He has been a faculty member in the department of Neurosurgery at the University of Florida for the past four years.

Mericle and his wife of 12 years, Yin, have two daughters, Rachael, 9, and Julia, 2, and a son, Robby, 7. He says he is extremely grateful for the opportunities afforded him by the Canby Robinson Society.

“Without the scholarship I would not have had the chance to attend Vanderbilt, or the freedom to pursue my passion, research,” Mericle said.

Mericle has received numerous grants for his groundbreaking research in endovascular techniques for treating aneurysms, brain tumors, carotid stenosis, and particularly stroke.

“I consider the Canby Robinson Scholarship one of my most prestigious awards, and I am very grateful that I have had the privilege to concentrate on my research without having to worry about the financial burden of paying off huge loans.”

*Editor's note: Mericle will be joining Vanderbilt's department of Neurosurgery in January 2005.*



**A Gift Marked “Do Your Best”**

our School of Medicine to provide scholarship support to a diverse group of students who have enhanced the quality of our educational environment.”

The VUSM Scholarship Campaign Fund has received almost \$15 million in documented bequests and \$11 million in outright gifts and bequests, for a total of more than \$26 million in new funds. An additional \$25 million has been identified in existing funds to bring the total to more than \$51 million in scholarship and financial aid support. The Scholarship Campaign is a vital component of the University-wide Shape the Future Campaign and is co-chaired by Robert Collins, MD '51, Judson Randolph, MD '53, and Robert McNeilly, A&S, '54. **CRS**

– DR. ROBERT MCNEILLY,  
CO-CHAIR, VUSM  
SCHOLARSHIP COMMITTEE



**Pictured above: Vanderbilt medical student Frank Lee visits with Mrs. Hollis Johnson at the Scholarship Reception.**

**Pictured left: The CRS “Ideal Physician” Award was presented by CRS president Fran Hardcastle (center) to 2004 graduating students Andrew White (left) and Leigh Simmons.**

For more information about the Canby Robinson Society, contact Missy Eason, Director of Donor Relations, Vanderbilt University Medical Center, D-8223, Medical Center North, Nashville, Tenn. 37232-2106, (615) 343-8676 or 8677, fax (615) 343-0809, e-mail: missy.eason@vanderbilt.edu

ANN H. PRICE, M.D.  
Executive Director  
for Medical Alumni Affairs



**Reunion 2004**

All Vanderbilt Medical Alumni are invited to return to campus for Reunion 2004, Nov. 4-6. This year's reunion not only celebrates the special anniversary classes ending in 3, 4, 8 and 9, and the new Quinq classes of 1954 and 1955, but it also includes meetings of The Brittingham Society and The Burnett Society.

Reunion CME activities are more varied than ever with Department (Surgery, Ophthalmology, Hematology/Oncology, Otolaryngology, Orthopedics, Ob-Gyn, Neurosurgery, and Neurology) Grand Rounds leading off the program on Friday, Nov. 5. Here are a few more Reunion 2004 “features.”

**Special Lectureships**

- The First Annual Zaner Lectureship/Ethics (Friday, Nov. 5, 10 a.m.)
- The 26th Annual Rollin A. Daniel Lecture (Friday, Nov. 5, 7 a.m.)
- The L. W. Edwards Lectureship in Surgery (Friday, Nov. 5, 3:15 p.m.)

**Social Events/Celebrations**

- **Thursday, Nov. 4,** Opening Reception for all returning medical alumni as guests of the Vanderbilt Medical Alumni Association (VMAA) Board
- **Friday, Nov. 5,** induction of the new Quinq classes of 1954 and 1955 with lunch to follow
- **Friday evening, Nov. 5,** Dinner Dance honoring our 2004 Distinguished Vanderbilt Medical Alumni: Dr. George R. Burrus, (MD/HS '55), Dr. Irwin B. Eskin (MD '48/HS '51), and Dr. J. Donald M. Gass (MD '57)
- **Saturday evening, Nov. 6,** Class Parties, plus a party for all returning Quinqs (all graduates prior to 1954) and spouses

**Sports Events**

- **Thursday, Nov. 4,** brunch and golf outing with Dr. Jacobson at Legends Club of Tennessee
- **Saturday, Nov. 6,** 5K University-wide run
- **Saturday, Nov. 6,** Football: Vanderbilt vs. University of Florida

**VMAA Host Program Update**

Many thanks to all of you who volunteered to serve as “Hosts” for the new Vanderbilt Medical Alumni Host Family Program. Designed to help defray the travel expenses for VUSM fourth-year students as they crisscross the nation for residency program interviews, the VMAA Host Program will welcome its first Vanderbilt guests beginning in October. If you live in close proximity to an academic teaching program, and have not yet signed up to participate with this effort, it is never too late to be added to the student password-protected Host Program database. Please e-mail me at [ann.price@vanderbilt.edu](mailto:ann.price@vanderbilt.edu) to volunteer or to receive further information about this new Vanderbilt Medical Alumni Association project.

**Eskind Medical Alumni Digital Library Project**

The next time you are “online” be sure to visit the Eskin Biomedical Library (EBL) Medical Alumni Digital Library Web site at: [http://www.mc.vanderbilt.edu/alum\\_diglib/](http://www.mc.vanderbilt.edu/alum_diglib/). (You can also access this Web site through the Medical Alumni or the main Eskin Library Web sites). The EBL Medical Alumni Digital Library site deserves to be bookmarked in your “favorites list.” It provides an excellent portal for VUSM alumni to access relevant online resources including:

- Publicly accessible health care and research resources organized in one place
- Descriptions of resources and information on their optimal use
- Alumni services
- Continuing education opportunities
- Vanderbilt publications
- Event calendars
- Professional associations
- Library services

Medical alumni will need a username and password in order to access the Alumni Digital Library. You may obtain these by e-mailing: [medalum@vanderbilt.edu](mailto:medalum@vanderbilt.edu) or by calling the Department of Medical Alumni Affairs at (615) 322-0310. Many thanks to EBL's Alumni Digital Library project team: Annette Williams, Qinghua Kou and Rachel Walden working under the direction of EBL's director: Nunzia Giuse, M.D., MLS. Great job!

*Ann H. Price*

## 40s

**\*James A. Clifton, M.D.,** MD'47, is professor emeritus at the University of Iowa, where the James A. Clifton Chair in Internal Medicine was recently established. He has received the Distinguished Mentoring Award and the UI distinguished Alumni Award for Achievement.

## 50s

**Robert Cochran Jr., M.D.,** MD'59, HS'59, is a Nashville-based physician and pain management expert who recently authored a book entitled *Understanding Chronic Pain: A Doctor Talks to His Patients*. Through a series of case studies, he explores the origins of chronic pain and the role of pharmacy in its treatment.

**\*Walter Puckett III, M.D.,** MD'55, F'59, was recently honored with the Distinguished Physician Award from the Baroness Foundation. This award was given to two Chattanooga physicians for exhibiting the very best clinical and ethical qualities and professionalism in the field of medicine. He is currently the medical director of Project Access, of heart and vascular services at Erlanger, and of outpatient cardiac clinics.

## 60s

**Melvin L. Elson, M.D.,** HS'69-70, has joined Galen Capitol Group, LLC, a merchant banking firm dedicated to the health care industry. A recognized expert, author and inventor of anti-aging and skincare treatments and technologies, Elson is a special advisor with the group.

**\*Arthur M. Freeman III, M.D.,** MD'67, was recently appointed chair of the department of Psychiatry at the University of Tennessee College of Medicine. He previously held the position of professor and chair of the department of Psychiatry at Louisiana State University Health Sciences Center.

**\*Richard B. Johnston Jr., M.D.,** MD'61, HS'61-'61, is the associate dean for Research Development at the University of Colorado School of Medicine and executive vice president for Academic Affairs at National Jewish Medical Research Center, a research hospital in immunology and pulmonary medicine, named "Best Respiratory Hospital" in United States for the past seven years by *U.S. News and World Report*. He is currently chairing a committee of the National Research Council/National Academy of Science. His committee is studying the health effects of perchlorate, a byproduct of the manufacture of solid rocket fuel that contaminates water supplies in the United States. This is the sixth committee he has chaired for the NRC/NAS.

**I.J. (Sam) William Shaker, M.D.,** HS'67-'73, FA'75-'76, clinical professor of Cardiothoracic and Pediatric Surgery at Mercer University School of Medicine, officially stopped doing cardiothoracic surgery in Macon, Ga., last July, but has continued his pediatric surgery practice since he is the only pediatric surgeon in Macon. He started the open-heart surgery program in Macon, which has grown to more than 1,200 cases annually.

## 70s

**\*Stephen L. Jones, M.D.,** MD'78, served as Command Surgeon for the United States Southern Command, based in Miami, from 2000-2002. After Sept. 11, 2001, he was responsible for medical care of the Al Queda and Taliban detainees transferred from Afghanistan to Guantanamo Bay. After moving back to Tennessee in 2002 he assumed command of the U.S. Army Hospital at Fort Campbell and is currently at Bagram Airbase, Afghanistan, where he is responsible for medical civic assistance operations. He is providing medical care to Afghan villagers in conjunction with combat operations.

**C.A. Stillwell Jr., M.D.,** MD'75, HS'75-78, spent 25 years in general pediatrics practice before deciding to open Charis Consulting Services, where he diagnoses and manages Attention Deficit/Hyperactivity Disorder and provides behavior consultations. He is president of Cumberland Pediatric Foundation with 400 members in Tennessee and 300 affiliates in East Tennessee, is a director for Vanderbilt Children's Hospital, and is also on the Williamson County Board of Health. He works with his wife of 30 years, Terri, and was recently elected an elder of Christ Presbyterian Church.

## 80s

**John P. Furia, M.D.,** MD'89, serves as the director of sports medicine at Evangelical Community Hospital in Lewisburg, Pa., and as a team physician for Bucknell University. He recently authored his first book entitled *Collegiate Fitness: A Guide to Healthy Campus Living*. The book promotes exercise and healthy nutrition for college students.

**Patricia Raymond, M.D.,** HS'86-'89, is a contributor to the latest "Chicken Soup" book, *Chicken Soup for the Caregiver: Stories to Inspire Caregivers in the Home, The Community and the World*. The book offers inspiring and uplifting stories about the work caregivers do and their power to transform lives, and the motivation to overcome a challenging day. The book is available through Amazon.com or local book retailers.

## 90s

**Denise A. Johnson, M.D.,** HS'92-96, is currently the president of the medical staff at Meadville Medical Center in Pennsylvania. She is in a private practice of Obstetrics and Gynecology with three partners, and serves as secretary/treasurer for Family Health Council, Inc.

**Thomas Benton Repine, M.D.,** MD'98, graduated from his fellowship in hematology/ oncology at Brooke Army Medical Center in San Antonio. He was also promoted to the rank of major and will be a staff (assistant chief) hematologist/ oncologist at William Beaumont Army Hospital in El Paso. He and his wife, Stephanie, have two daughters, Taylor and Whitney.

**John Van Aalst, M.D.,** MD'93, has recently become the director of Pediatric and Craniofacial Plastic Surgery at the University of North Carolina, Chapel Hill.

## 2000-

**Rachel Jankolovits, M.D.,** MD'00, married Timothy Gordon on June 5 in New York City. He is an associate specializing in distressed securities at LaGrange Capital Partners, a hedge fund in New York. She received a master's degree in public health from Columbia, where she is now a research fellow in infectious diseases.

**Carmel C. Lakhani, M.D.,** MD'01, is currently a resident at the University of North Carolina, Chapel Hill. She recently received the Kaiser Permanente Excellence in Teaching Award for her enthusiasm for teaching medical students on their psychiatry rotation.

**Vipul T. Lakhani, MD.,** MD'01, is currently a resident at the University of North Carolina, Chapel Hill along with his wife, Carmel. He recently received the Janet J. Fischer Award for his exemplary efforts in medical student teaching and serving as a positive role model for students. He also was awarded the Henry C. Fordham Award in recognition for his humility, patience, and devotion to medicine, as well as his exceptional teaching skills.

**J. Bartley McGehee III, M.D.,** MD'01, and his wife, Paige, welcomed their first child, Claire, on April 28.

**\*Jeffrey R. Balsler, M.D., Ph.D.,** has stepped down as chairman of the department of Anesthesiology. Balsler took on new responsibilities as associate vice chancellor for Research on Jan. 1, and held both positions until June 1 when he relinquished his chairmanship.

**\*Alan D. Cherrington, Ph.D.,** professor and chairman of Molecular Physiology and Biophysics, has been named president of the American Diabetes Association. He is the first non-M.D. to serve as ADA president. Cherrington, who also is Charles H. Best Professor of Diabetes Research, has made major contributions to the current understanding of diabetes. His work helped define how hormones such as glucagon and the nervous system can affect glucose production and glucose uptake by the liver.

**\*P. Jeffrey Conn, Ph.D.,** professor of Pharmacology and director of the Program in Translational Neuropharmacology, has received a one-year, \$100,000 Distinguished Investigator Award from The National Alliance for Research on Schizophrenia and Depression (NARSAD) to pursue studies that could lead to new treatments for schizophrenia. **Zhu Li, Ph.D.,** and **Monsheel Sodhi, Ph.D.,** who are research assistant professors of Psychiatry, received Young Investigator Awards from the Alliance, which provide up to \$30,000 per year for one or two years.

**Edward G. Conture, Ph.D.,** professor and director in graduate studies Hearing and Speech Sciences, was recently named editor of the *Journal of Fluency Disorders*. He also recently became a member of the Advisory Council, and the National Institute of Deafness and Other Communication Disorders (NIDCD).

**Ronald L. Cowan, M.D., Ph.D.,** assistant professor in the department of Psychiatry, was recently elected to the editorial board of the journal *Synapse*.

**\*Raymond N. DuBois, M.D.,** Ph.D., was recently honored by The American Association for Cancer Research and the Kirk A. & Dorothy P. Landon Foundation for extraordinary achievement in translational cancer research at the AACR's annual meeting. DuBois received the Dorothy P. Landon-AACR Prize for Translational Cancer Research in recognition of his groundbreaking contributions toward understanding the role of cyclooxygenase-2 (COX-2) in cancer and the potential for COX-2 inhibition in preventing and treating cancers. DuBois is the Vanderbilt-Ingram Cancer Center's associate director for

cancer prevention, control and population-based research.

**Roy Elam, M.D.,** has joined Vanderbilt University Medical Center as associate professor of Medicine, practicing in the division of General Internal Medicine. Elam will also be working through the department of Medicine as a consultant for clinical and educational efforts in palliative care at the Medical Center. Elam was previously the medical director for collaboration between the YMCA of Middle Tennessee and Saint Thomas Hospital from 1999 to 2004.

**\*Steven G. Gabbe, M.D.,** dean of the School of Medicine, has co-written the third edition of *Diabetes in Women: Adolescence, Pregnancy and Menopause*, which seeks to provide an "updated educational and therapeutic resource for those who care for women with diabetes," according to the authors. Co-authors are: Albert Reece, M.D., Ph.D., of University of Arkansas College of Medicine, and Donald R. Coustan, M.D., of Brown Medical School.

**\*Alfred L. George Jr., M.D.,** will chair a "Special Emphasis Panel" of the National Institute of Diabetes & Digestive & Kidney Diseases. The panel will review applications solicited by one of the new National Institutes of Health (NIH) Roadmap training initiatives. The "NIH Roadmap" is a series of activities that aims to accelerate the pace of discovery in areas key to preventing, detecting, diagnosing and treating disease and disability, and to speed the translation of therapies from bench to bedside.

**\*Julian Gibbs, D.D.S., Ph.D.,** professor emeritus of Radiology and Radiological Sciences, is co-chair of Committee 91-2 of the National Council on Radiation Protection and Measurements. The committee recently published *Report No. 145, Radiation Protection in Dentistry*.

**Andrew Gregory, M.D.,** a pediatric orthopaedics and sports medicine specialist with Monroe Carell Jr. Children's Hospital at Vanderbilt has been appointed to the American Academy of Pediatrics (AAP) Committee on Sports Medicine and Fitness.

**\*Marta Hernanz-Schulman, M.D.,** chief of Pediatric Radiology, professor of Radiology and Radiological Sciences and professor of Pediatrics, was recently elected as second vice president for the Society for Pediatric Radiology (SPR). The position is a direct line to the presidency and board chairmanship.

**Christine Hidalgo, M.D.,** joined the faculty July 1 as assistant professor of Pediatrics and Adolescent Medicine. She received her medical degree at Louisiana State University in New Orleans and completed her pediatric residency at Vanderbilt Children's Hospital in June. Hidalgo's focus is Adolescent Medicine.

**\*Harry R. Jacobson, M.D.,** vice chancellor for Health Affairs, has been named chairman of the Nashville Health Care Council for 2004-05. The Health Care Council, founded in 1995, is an association of health care industry leaders working to further establish Nashville's position as the nation's health care industry capital.

**\*David H. Johnson, M.D.,** recently took the reins of the American Society of Clinical Oncology. Johnson is Cornelius Abernathy Craig Professor of Oncology and deputy director of the Vanderbilt-Ingram Cancer Center. ASCO is the world's largest organization of cancer physicians. He will serve in that position through next May.

**\*Howard Kirshner, M.D.,** professor of Neurology, has been elected chairman of the Medical School Faculty Advisory Council. He also serves as secretary of the Vascular Neurology section of the American Academy of Neurology, and is a book review editor of the *Journal of Cognitive and Behavioral Neurology*.

**\*Nancy Lorenzi, Ph.D.,** assistant vice chancellor for Health Affairs, professor of Biomedical Informatics, and clinical professor of Nursing has received the Medical Library Association's (MLA) Marcia C. Noyes Award for 2004. Lorenzi received the award during MLA's 2004 annual meeting in Washington, D.C.

**\*Eric G. Neilson, M.D.,** chairman of the department of Medicine, was recently honored by The Association of Subspecialty Professors (ASP). The organization named their national award for an individual who has made important contributions to subspecialty internal medicine the "Eric G. Neilson, M.D., Distinguished Professor Award." Neilson was the founding president of ASP.

**Robert H. Ossoff, M.D.,** Guy M. Maness Professor and chair of Otolaryngology, was inducted as the 126th president of the American Laryngological Association (ALA) at its recent annual meeting in Phoenix. In addition to being elected president of the ALA, Ossoff was presented with the prestigious deRoaldes Medal at the meeting. Established in 1907, the deRoaldes Award is given to an individual in recognition of outstanding accomplishments in the field of Laryngology and Rhinology.

**Scott Bayer, M.D.,** MD'33, CF-'43-'88, one of Nashville's first physicians to specialize in obstetrics, died on July 21. He was 93. He delivered more than 8,000 babies and entered Vanderbilt University as an undergraduate at the age of 15. He practiced in Nashville for 45 years. Dr. Bayer is survived by his wife, Betsy, two children, seven stepchildren, 22 grandchildren, 14 great grandchildren, and one great-great-grandchild.

**Philip Juan Browning, M.D.,** an internationally known physician-scientist in the area of virus-related cancers, died June 22 at his Brentwood, Tenn. home after a lengthy battle with colon cancer. He was 51. In addition to his wife of 24 years, Renee Upchurch-Browning, who is a member of the VICC Clinical Trials Office, Dr. Browning is survived by two sons, Philip Juan Browning II and Andrew Gerri Browning.

**Robert N. "Buck" Buchanan Jr., M.D.,** MD'34, HS'34, CF'49-'00, clinical professor of Dermatology, Emeritus, died July 7 at Richland Place Health Center in Nashville. He was 93. Dr. Buchanan graduated from Vanderbilt University in 1931 and Vanderbilt University School of Medicine in 1934 and returned to Nashville in 1945 to practice. At Vanderbilt, he held various appointments in the division of Dermatology, including chief of the division. He saw his last patient in 1996 at age 85. Dr. Buchanan is survived by his wife, Rachelle Blackman Buchanan, four children, and 12 grandchildren.

**William L. Bundy, M.D.,** MD'36, F'82-'83, died in North Wilkesboro, N.C. on Aug. 8, 2003. He was 91. Dr. Bundy was a lifetime member of the Wilkes County Medical Society and the American Medical Society and was the founding physician of the New River Detox Center, later named the Bundy Center. He also served as the director of the Wilkes-Allegheny Cancer Center and is survived by longtime friend and companion Ruth Graham, one daughter, and two grandchildren.

**H. Earl Ginn, M.D.,** FA'65-'81, died May 17. He was 73. He served as head of the renal department at Vanderbilt from 1965 to 1980, and was a founder of the Middle Tennessee Kidney Foundation. Dr. Ginn was chief medical officer of REN Corporation, medical director of the transplant program at Centennial Medical Center, and a consultant in nephrology with Nashville Nephrology Associates. He is survived by his wife, Judy, two children, and four grandchildren.

**Paul Arnold Green Jr., M.D.,** MD'53, HS'57, HS'59, died March 31. He practiced as an OB/GYN for 30 years. He is survived by his son.

**Richard Finley Grise, M.D.,** MD'44, died April 15. He was 83. He conducted his private surgery practice in Bowling Green, Ky. for 38 years, and became chief of surgery at Bowling Green-Warren County Hospital and also chief of surgery at Greenview Hospital. Dr. Grise was a past president of the Kentucky Surgical Society. He is survived by his wife, Wilma, three sons, four stepsons, five grandchildren, and eight step-grandchildren.

**Duncan A. Holaday, MD.,** FA '80-'89, died May 11 in Fort Myers, Fla. He was 87. Besides Vanderbilt, he was also on the faculty at Columbia University and was head of the department of Anesthesiology at the University of Chicago. He was recruited by Dr. Virginia Apgar in 1950 to the faculty of Columbia Presbyterian Hospital where he joined Apgar and Stanley James, M.D., in developing a test for newborn babies, the Apgar score. Their collaborative project, a 12-institution study involving 17,221 babies, established that their tests of newborns, especially the five-minute score, was a predictor of neonatal survival and of future neurologic development. Dr. Holaday is survived by his wife of 63 years, Anita Christ, and five children.

**J. Paul Johnson Jr., M.D.,** MD'23, died May 6. He is survived by his

wife of 53 years, Nancy, four children, 12 grandchildren, and one great-grandchild.

**Katherine Knutsson, M.D.,** MD'49, died April 16. She practiced psychiatry in the Palo Alto area for nearly 50 years, and was a past president of the Peninsula Psychiatric Association. Dr. Knutsson is survived by her husband of 43 years, Wilbur F. Martin, her son, two grandchildren, and two great-grandchildren.

**Allen Lein, Ph.D.,** FA'46-'48, died March 26, 2003 in Austin, Texas. He was 89. He was a founding member of the University of California, San Diego School of Medicine faculty, and the medical school's first associate dean for administration. He also served as associate dean for graduate studies and academic affairs. He was director of UCSD's Health Professions Honors Program, and became professor emeritus in 1980. He was named an Outstanding Educator of America in 1971, and wrote a much-praised book called *The Cycling Female: Her Menstrual Rhythm*. Dr. Lein is survived by his wife Teresa, two children, and three grandchildren.

**George R. Mayfield Jr., M.D.,** MD'54, HS'56-'58, died April 24. He became director of laboratories at Maury County Hospital in Columbia in 1960, and served many hospitals in Middle Tennessee, piloting his own airplane. He was a delegate from Maury County to the Tennessee Medical Association, and to the College of American Pathologists. He also served as president of the American Pathology Foundation.

**Dan W. McCarn, M.D.,** MD'34, died May 30 in Warrior, Ala. He was 95. Dr. McCarn practiced medicine in Warrior for more than 50 years, following his father, O.C. McCarn, Sr., M.D. He is survived by two daughters and two grandsons and two great-granddaughters.

**James O. Morgan Jr., M.D.,** MD'52, died March 25. He was

77. He served his surgical internship at Johns Hopkins before entering practice with his father, the late J.O. Morgan Sr., M.D. He was a fellow of the American College of Surgeons and is survived by two children and four grandchildren.

**George L. Perler, M.D.,** MD'49, died Nov. 9, 2003. He served as a past president of the Tennessee Academy of Family Practice, and was an honorary staff member of Baptist Hospital, Saint Thomas Hospital, and Nashville Memorial Hospital. Dr. Perler is survived by his wife, Florence, three children, four grandchildren, and one great-grandchild.

**George M. Phillippi, M.D.,** MD'43, died on Sept. 29, 2001. He retired from practice in 1984 after practicing 36 years in Beaumont, Texas.

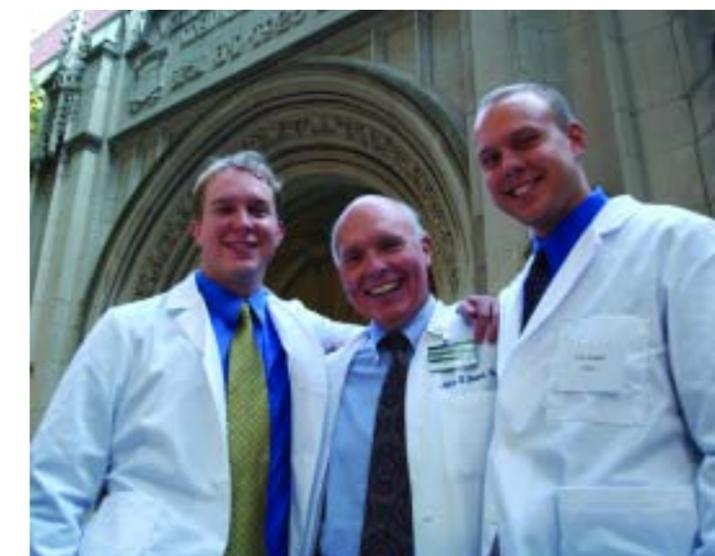
**Stephen Michael Pratt, M.D.,** MD'83, HS'83-'88, died April 23. He was 47. He volunteered with Operation Smile, an organization that performs reconstructive surgery on children in need around the world, and was a fellow of the American Society of Plastic Reconstructive Surgeons and the American Academy of Cosmetic Surgery. He is survived by his wife, Leona Maitland Pratt, and two daughters.

**Vernon H. Reynolds, M.D.,** MD'55, F'60-'61, FA'62-'88, FA'90-'00, professor emeritus at Vanderbilt, died in May. He was elected to Alpha Omega Alpha Honorary Medical Society and was awarded the Founder's Medal for graduating first in his class. He started the division of Surgical Oncology at Vanderbilt and served as its chief until his semi-retirement. He also started the medical oncology program, one of the first in the nation, and helped set the framework for the Vanderbilt Ingram Cancer Center. He is survived by his wife, Bettye, his son, and two grandchildren.



## Vanderbilt welcomes new medical students

New medical students Elizabeth Eby, Kristen Gibbs, Alison Hanson and Denis Alemka find out that orientation isn't all business (top left) while Dean Steven Gabbe helps first-year medical student Yaa Kumah with her white coat (bottom left) and (bottom right) Allen Kaiser, M.D., a 1967 graduate of Vanderbilt Medical School, vice chair of the department of Medicine and vice chair for Clinical Affairs, celebrates with his sons, Daniel, left, and Clay, both first-year medical students.



## Board of Directors

Vanderbilt Medical Alumni Association Board of Directors

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