

## A Tree With Many Leaves: A Multi-Faceted Approach to Brain Cancer

Cliff's Notes, Alike-Style

The "Oops" Factor

Knock, Touch, Tell

The Doctor's Doctor

Medicine is a public trust

THE JOHNS HOPKINS CENTER  
FOR INNOVATIVE MEDICINE





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**LEAVES AND OTHER LITTLE THINGS**

It's a welcome spring in Baltimore after a long, tough winter, and it strikes me as fitting that our cover story for this Spring issue of *Breakthrough* is "A Tree with Many Leaves." We feature the remarkable work of a neurosurgeon, Alfredo Quinones, who is making life better for his patients with brain cancer in many ways, big and small. Even as he's conducting major research with stem cells and cancer-fighting nanoparticles – hard work that he hopes will pay off in a few years – he is also making simple changes now to improve the quality of life for these patients, who are so often written off as hopeless cases.

Reading over this issue, I reflected that so many of the things we do are, in and of themselves, not big at all. But together, they add up to very important things. Individual leaves that, together, make a beautiful canopy on a tree:

- A handbook packed with simple questions that teach our young doctors how to treat the whole patient, not just the disease.
- A knock at the door of a hospital room, a touch on the shoulder, a conversation at eye level instead of with the doctor looming over the bedside. Little signs of respect and caring for inpatients who, by the very nature of the hospital experience – being stuck in a bed, wearing a drafty gown, feeling generally pretty helpless – need to know that their dignity and privacy matter as much as their health.
- Big tasks broken down into stages, each with checklists, to make them safer. This small initiative, begun in the Division of Gastroenterology by Parviz Nikoomanesh, and funded with the help of a philanthropist, Fred Mirmiran, will be expanding to other departments throughout Johns Hopkins Bayview.
- Small gifts of time from a doctor, Frank Herlong, to medical students, to his very sick patients, many of whom must cope with serious liver disease that is not going to get better.
- A little guidance and friendly advice for young investigators who are working hard to get a grant, so they can ask the best questions and handle their data in the smartest way.

Leaves on the tree, like blocks in a pyramid, are small parts that blend together in a complex way for a greater good. Here at Johns Hopkins Bayview, our model for all that we do is a pyramid. It reflects our beliefs here at the Center for Innovative Medicine perfectly, because patients, their families, and our community are at the very top of this pyramid. They are the pinnacle of our efforts, people and families who need a listening ear, an empathetic heart, and a caring touch every bit as much as they need an astute mind, accurate diagnosis, and effective treatment. Each side of the pyramid – teaching, patient care, and research – depends on the others for support, reminding us of the power of collaboration. And our foundation is our entire work force, our patient-centered, interdependent culture. I tell people here that I want the pyramid to be theirs. I want them to think about leaving their fingerprints on the blocks; I want them to own this model of our mission. The Center for Innovative Medicine was built in the idea that medicine is a public trust – which means, the pyramid belongs to you, too.

*David B. Hellmann, M.D.*

4

**A Tree With Many Leaves**

What's the good of prolonging survival in people with brain cancer, if their quality of life stinks?

**Cliff's Notes, Aliki Style**

A handy, pocket-sized guide, developed by internist Laura Hanyok and colleagues, helps Aliki faculty teach patient-centered care.

6

**The "Oops" Factor**

Gastroenterologist Parviz Nikoomanesh heads a new program that aims to reduce medical mistakes by creating a safer environment.

8

**Knock, Touch, Tell**

Simple courtesies to show our inpatients that we care.

10

- 12 The Doctor's Doctor
- 14 How to Get a Grant
- 15 Noted Author Gives This Year's Miller Lecture

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## A Tree With Many Leaves: A Multi-Faceted Approach to Brain Cancer

What's the good of prolonging survival in people with brain cancer, if their quality of life stinks?

This idea – of living longer, but not living very well – haunts Alfredo Quinones, M.D., director of the Brain Tumor Surgery Program at Johns Hopkins Bayview. His faculty appointments – in Neurosurgery, Oncology, Neuroscience, and Cellular and Molecular Medicine – reflect the breadth of questions he's attempting to answer. Quinones has expertise in minimizing collateral damage in his patients; he uses surgical navigation and endoscopic techniques (going in through the nose to treat pituitary tumors, for example), and makes precise, delicate maps of what ideally will be forbidden territory – the brain's motor and speech centers – to protect areas that are vital to quality of life. But that's not nearly enough, he says.

Although his research and treatment program is detailed and expansive – a tree, he describes it, with many leaves – it has, practically speaking, two main branches. One is the most immediate challenge: How can we make life better for our patients today? And the other: How can we lengthen and improve life for our patients in the future?

### FOR NOW, SIMPLE THINGS CAN HELP

"Brain cancer is sort of the bastard child of cancer," says Quinones. "There are about 3,000 new cases a month of the very malignant cancer, like Senator Ted Kennedy had." Thousands more people develop secondary brain tumors – offshoots of cancer that originate elsewhere, say in the lungs, and somehow find their way to the brain. "Once cancers get to the brain, people tend to give up on these patients. But there are so many simple things we can do," he says, to have an immediate result on quality of life, and possibly prolong survival. For example, simply treating depression and controlling blood sugar levels can make a big difference.

So can educating the medical community about where to send patients. Several years ago, Quinones realized that most of his patients were white, and he couldn't figure out why. "At Hopkins, we treat everybody the same way. Once you walk in the door, you get the VIP treatment, whether you are rich, poor, black, white, Hispanic, it doesn't matter." I thought, 'Is it really that we are not taking these patients, or is the root of the problem before the patient ever gets to the door?' (Quinones is sensitive to this issue; born in Mexicali, Mexico, he came to America as a farm laborer. He attended night classes at a California community college, where one of

his professors, seeing his potential, helped him get accepted to the University of California, Berkeley. He became a U.S. citizen while at Harvard Medical School.) Recently, Quinones found that minority and underprivileged patients with brain tumors were less likely to be referred to high-volume, specialized centers, despite the fact that people treated at these centers tend to do better. His findings were published in the *Archives of Surgery*.

### LOOKING AT OUTCOMES

With support from the Center for Innovative Medicine, Quinones has hired a postdoctoral fellow and started the Neuro-Oncology Surgical Outcomes Research Laboratory. He has begun building databases to look at every possible aspect of brain cancer in his patients – not only the kind of cancer and how it is treated, but how this treatment affects quality of life, how it affects the family and caregivers, and how these and other factors can improve survival. "This outcomes research all began with David Hellmann," co-founder of the CIM, says Quinones. "His support really gave me a boost of energy, to realize there was someone outside my specialty who believed in what we were doing. We're like a stem cell – we're at the early stages of our development. But I can see it beginning to evolve."

Today, the prognosis for someone diagnosed with an aggressive brain tumor is devastating; the average survival is just 15 months. "Can we make it 20 months," says Quinones. "Then, can we make it 40 months? Ten years?" But – and this is huge – can those be good years? "Or are those going to be patients who have absolutely no memory, their brains potentially fried by radiation, severely impaired. We have to find ways to minimize the collateral damage that we do through surgery and adjuvant treatment." The length of survival is meaningless, he adds, "if you're bedridden, you don't recognize your loved ones, if you have no memory."

Quinones is convinced that this outcomes work will be the key to changing how patients are treated, with the focus on improving quality of life. "This is not rocket science," he says, "but no one asks, especially with brain cancer patients, how the family is doing. How are the caregivers coping? This is honestly part of the big picture; quality of life is not independent. We are building that infrastructure for long-term follow-up." He hopes to create a network of similar data bases, including tissue

**"Once cancers get to the brain, people tend to give up on these patients." But many simple changes – doable now – can have an immediate result on quality of life, and possibly prolong survival.**

samples, so researchers can combine their efforts worldwide. Among the many questions that can be addressed with a larger pool of patients: What side effects developed immediately, and what happened a few months down the road? Has any other family member developed either primary or metastatic brain cancer? (Scientists know that small clusters of families seem more prone to cancer in the brain, but with limited patients and tissue samples, there has not been much hard evidence for researchers looking for genetic causes to sift through.)

### FOR TOMORROW, STEM CELLS?

At the other end of Quinones' work is the search for better treatment, based on improved understanding of the disease. With the help of grants from the National Institutes of Health, the Howard Hughes Foundation, the Robert Wood Johnson Foundation, the Children's Cancer Foundation, the American Society of Clinical Oncology and other funding organizations, Quinones and colleagues are exploring the basic biology of brain cancer, and the potential role of stem cells in treating it. In the laboratory, for instance, they are investigating mesenchymal stem cells (the kind found in bone marrow; Quinones' team is getting them from fat) as cancer-fighting agents – specially treated with nanoparticles, medications and growth factors, coated with a protective gel, and placed directly in the tumor. The beauty of such an approach is that it targets the cancer cells directly, leaving other tissue alone – something even the most exquisitely precise surgery and radiation therapy is currently unable to achieve.

When he begins implanting these high-powered cells in patients, the Outcomes Laboratory will follow every part of the process. "That's why I'm so thankful for what the CIM has done. My hope is that through brain cancer, and the way we are looking at it, we can have an influence on many other types of cancer. For me," Quinones adds, "we are at the beginning of a very, very exciting belief that we can change this." ■

# Cliff's Notes, Aliko-Style

For a veteran academic clinician, teaching young doctors how to take care of sick people – how to manage a patient suffering from pneumonia, or a heart attack, or the complications of diabetes, for instance – is pretty straightforward.

Teaching them how to be Aliko doctors, however, does not always come so easily, says internist Laura Hanyok, M.D., an attending physician on the Aliko Service. “We don’t always know how to teach an intern to call a patient after they get home, or to make sure that patients are taking their medications the way you want them to take them.” This is why she and other Aliko leaders have come up with a handy, pocket-sized guide to help teach this “patient-centered” care. Think of it as Cliff’s Notes, Aliko-style.

The Aliko Initiative, launched in 2007 by the Center for Innovative Medicine, is the gift of Mrs. Aliko Perroti, a Greek philanthropist. Interns and residents who spend time on this service, and the faculty who teach them, have fewer patients, and thus more time to spend with each one. They get to know their patients better, and develop relationships that don’t abruptly end when the patient goes home. It’s old-fashioned medicine, in an age when hospitalized patients are sicker, and yet seem to be in and out of the hospital quicker than ever. More tests and procedures are being done in less time, and communication often suffers as a result; patients don’t feel their doctors know them as people, and their doctors often don’t know what happens to them after they leave the hospital.

Hanyok, along with Darlene Tad-y and Molly Federowicz, developed this guide, and after a year, they’re updating it; with the help of Aliko faculty who are geriatricians, they will add sections on visiting patients who go to a nursing home or rehabilitation facility. They’re also writing a separate handbook for Aliko residents, focusing on the “nuts and bolts of teaching while you’re managing a team.”

Isn’t it potentially awkward, a team of doctors visiting a patient in a nursing home – which has its own staff physicians? Not at all, says Hanyok, because the Aliko doctors aren’t trooping in to show the nursing home how to take care of the patient. Instead, they’re there to visit, and to see first-hand how the transition of care to a nursing home or rehab center works. Just as it takes home visits for doctors to start thinking about potential barriers to taking

**It’s old-fashioned medicine, in an age when hospitalized patients are sicker, and yet seem to be in and out of the hospital quicker than ever.**

medication – a steep set of stairs, for example, or lack of transportation to the drugstore – it takes a visit to the patient’s new bedside to understand that there might be new frustrations to deal with. Depression, for instance, or a feeling of isolation, or annoyance with a roommate.

“These are things I like teaching,” says Hanyok, “the medical parts, the psychosocial parts, and the transition of care, which is so important. It’s nice to have the opportunity to do that. The Aliko Initiative just gives us more time – to teach, and also to listen to our patients.” Sometimes, she adds, that’s the greatest service she can provide. “We have a gentleman right now who is in the end stages of treatment for cancer, and what he really needs is for us to listen to him and support him,” something doctors on other services would never have the time to do. “We have the ability to sit in his room literally for half an hour and just talk with him.” ■

## Shorthand for Caring: Gotta Love the Mnemonic

The Aliko faculty handbook is packed with proven tips and checklists to help “learners” – interns and residents – practice patient-centered care. For example, in the section, “Tools for a Great Home Visit,” key issues to check during home visits are found in the mnemonic, **INHOMESS**, adapted from guidelines for care of the elderly. It stands for:

- I** Immobility
- N** Nutrition
- H** Housing
- O** Other people
- M** Medications
- E** Examinations
- S** Safety
- S** Spiritual Health.

Short but sweet. Yet each little shorthand category reflects a potential problem that could range from minor to critical, and the thoughtfulness behind each one is typical of Aliko medicine. This expanded version of the list above doesn’t even include everything the Aliko team looks for, but it will give you an idea of the “whole person” approach these doctors are taking.

**Impairments and immobility:** Can the patient perform the activities of daily living? There’s a checklist here, too, but the basics include things like being able to get dressed, to feed yourself, to use the bathroom. Is his balance okay? Are there sensory impairments?

**Nutrition:** Is he obese? Is she too thin or malnourished? Is he drinking alcohol – and is this interfering with getting good meals? Is there food in the house? And is it decent – are there vegetables, and healthy foods, or just cans of soda and bags of chips?

**Home Environment:** What’s it like in there? Is it homey? Is it messy? Are there roaches or mice? Is there a pet? Does the patient live alone, or is the house packed with people, and if so, is this stressful? Are there books, or a TV, memorabilia?

**Other people:** Does the patient have somebody around for support? If he needs to go to the hospital, is there somebody to drive him? Has she given a friend or relative the power of attorney?

**Medications:** First of all, is the patient taking every pill, every day, the right way? Are the medications organized in one place, or are they scattered all over? Is the patient taking any dietary supplements?

**Examination:** How are we doing here? How’s the general physical condition – the weight, blood pressure, the mental state, as determined by a little mini-exam? The glucose and urine can be checked with mini-tests right there in the home, as well.

**Safety, Spiritual health and Services:** Are there electrical cords just waiting to be tripped over? Does the staircase have treads, or is it slippery? Is there a handrail in the bathroom? Does the plumbing work? Is the patient a member of a church or religious group? Do other members come by, maybe with a meal, maybe just to visit?

And later, back at the hospital, there are other questions for Aliko doctors to think about, including: Before and during the home visit, what assumptions did I notice (about the patient, about the situation, myself? Did those assumptions change? Are there things I would have done differently, either during the visit or earlier, when the patient was in the hospital? How will this experience affect my care of future inpatients?

An Aliko Doctor, says the guidebook, has a caring attitude, develops a genuine and deep understanding of the patient and his or her circumstances, and emphasizes “patient primacy” emphasized through patient-centered objectives, “such as the continuity and transition of care, the respect for patients’ values, preferences and barriers, and an understanding of the patient outside of the hospital.”



## The “Oops” Factor: Saving Lives by Lowering the Risk of Medical Mistakes

How many tens of thousands of Americans died this year of lung cancer? Heart disease? It’s hard to comprehend so many lives cut short, every single year. Like play money, the numbers – all those zeros, each one somebody’s husband or grandmother or child or friend – just don’t seem real.

The real kick in the pants is that as good as medicine is, doctors just don’t have the ability right now to change those numbers quickly. And yet, the potential for powerful, lifesaving change that doesn’t require decades of medical advances is in our hands already, says gastroenterologist Parviz Nikoomanesh, M.D. All we have to do is reduce the number of medical mistakes that happen in hospitals.

A study done by the Institute of Medicine’s Committee on Quality of Health Care found that between 44,000 and 98,000 people die each year from medical errors made in hospitals. Medical mistakes are the fifth leading cause of death in the U.S. – killing more people each year than car wrecks, breast cancer, prostate cancer, or AIDS. “We have improved the life expectancy of our population to about 80 years, and yet we haven’t been able to save these lives,” says Nikoomanesh, Clinical and Endoscopy Director at Johns Hopkins Bayview. The cost to society of these preventable deaths is tough to calculate, but it’s in the billions; the estimate ranges between \$17 million and \$29 billion.

Some of the blunders are medication-related; one study found that two out of every 100 patients admitted to hospitals experiences a “preventable adverse drug event.” Translation: Somebody messes up a prescription – the drug, the dosage, or both. Other goofs can only be blamed on poor communication; the most heinous examples of these are the headline-making cases of people getting the wrong hip replaced or kidney removed.

Anybody can make a mistake; in fact, the Institute of Medicine’s report was called, “To Err is Human.” But there are many steps hospitals can take to reduce the likelihood that mistakes will happen, says Nikoomanesh who, with support from Maryland philanthropist Fred Mirmiran, has launched a new initiative to do just that. Just as every airline pilot runs through a standard pre-flight checklist, hospital doctors and nurses can divide many of their jobs into stages, each with its own set of safety measures. For example: “In gastroenterology, one stage is our pre-procedure time,” before upper or lower endoscopy or, Nikoomanesh’s specialty, ERCP (for endoscopic retrograde cholangiopancreatography). Among the things that should be done ahead of time are risk assessment, administration of antibiotics to prevent infection, and manage-

**Anybody can make a mistake.  
The key is to make the  
environment safer, so mistakes  
are less likely to happen.**

ment of anticoagulation. During the procedure, “were any medications given? Did the patient develop a respiratory problem, or irregular heart-beat? This needs to be recorded and made part of the patient’s chart.” And afterward, any complications need to be reported and then discussed, “so we can learn from our mistakes.” Nikoomanesh’s guidelines include better follow-up – communication with referring physicians, and awareness of patient satisfaction. “It’s important for the entire team to know what we’ve done that made patients feel good about their care, and also what we could have done better.” Nikoomanesh expects that the safety initiative funded by Mirmiran, currently a

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pilot program in the Division of Gastroenterology, will expand to include Cardiology and other subspecialties.

### MAKING SURE LABWORK DOESN’T FALL THROUGH THE CRACKS

Another area of concern to Nikoomanesh and Mack Mitchell, M.D., Chairman of Gastroenterology, is the potential for a communication breakdown when patients get lab tests. When doctors send a patient to get labwork, they – and the patient – really need to know the result. But depending on your particular insurance plan, you could have your blood or urine sample taken at Bayview, or at an independent lab that might even be in another state. Let’s say a blood test finds that your level of potassium is dangerously low or high: Either case is bad news for your heart. But maybe you got this test at Lab X, and some technician there either didn’t send it back, or the results got lost somewhere in cyberspace. You don’t hear from the doctor, and you think everything’s fine. Your doctor doesn’t hear from the lab, and nobody follows up. Mitchell is working with Hopkins Information Services to develop software to make sure this never happens. “First of all, we need to make sure that the test is done,” says Nikoomanesh, “second, that the report gets in the patient’s chart, that it’s communicated with the patient, and with the referring physician.” Any imaging or laboratory tests done at Hopkins are accessible on the hospital’s computer network, but Hopkins physicians do not have access to the computers at outside labs. “We’re working to close the loop,” he adds, “so nobody falls through the cracks.” ■

Parviz Nikoomanesh and Fred Mirmiran go way back – all the way to their native country, Iran, where they went to high school together. They went their separate ways – Nikoomanesh to medical school, Mirmiran to engineering school, and then to become president of Johnson, Mirmiran and Thompson, a nationally ranked engineering firm with offices in seven states – but eventually, both of them wound up in Maryland. And both have long been interested in safety, and saving lives. Co-chairman and member of the Board of Directors of the Maryland Highway Safety Foundation, Mirmiran was instrumental in working with state legislators to get the recent texting-while-driving ban passed. The Foundation is also working for mandatory installation of an ignition interlock device, which prevents a vehicle from starting if it detects the presence of alcohol, for people convicted of drunk driving. “Safety is his mission,” says Nikoomanesh. “It’s part of who he is.”

Arrogant doctors. They just barge in without warning – especially when you’re doing something embarrassing, like trying to fix the ties on your hospital gown. Then they loom over you like giants, while you’re just stuck there, flat on your back, trying to tilt the bed so you won’t get a stiff neck from looking up, and then they don’t bother to tell your nurse what’s going on, so just when you get all excited that you’re going to start on solid food at lunchtime, here comes the liquid diet tray with the chicken broth, Jello, and hot tea. They don’t care, they don’t listen, and they don’t communicate.

If you have ever felt like this, at any hospital, you’ll understand the goal behind a new, physician-led initiative called, “Knock, Touch, Tell.” It started with a challenge from David Hellmann, M.D., Aliko Perroti Professor and the Chairman of Medicine, to improve patient satisfaction at Johns Hopkins Bayview. Charged with the task were physicians Eric Howell, M.D., and Colleen Christmas, M.D., and Assistant Dean Melissa Helicke. Christmas – who says she wanted something catchy and easy to remember, like the fire safety motto, “Stop, Drop, and Roll” – came up with the program’s title.

“Eric, Melissa and I, together with some colleagues, looked really carefully at what these [patient satisfaction] scores are reflecting, and what sorts of behavior we could be teaching to remind our doctors that patients are always at the pinnacle of

**“A housekeeper in a hotel would never just enter your room before cleaning; a hospital room is not a hotel room, but it is a patient’s personal space, and it shows respect to knock and ask permission to enter before you go in.”**

everything we do,” says Christmas, Director of the Internal Medicine Residency Program. They also studied the medical literature which features an increasing number of studies on patient satisfaction – a topic rarely studied until fairly recently.

**“We actually don’t do a good job of talking to patients. We use medical jargon a lot, we often don’t acknowledge or confirm that they understand what we’ve said.”**

**Knock:** “All of us thought that staff and physicians need to be courteous with patients,” says Howell, Chief of the Division of Hospital Medicine, “and one of the most basic ways to do that was knock on the door of the room before entering. A housekeeper in a hotel would never just enter your room before cleaning; a hospital room is not a hotel room, but it is a patient’s personal space, and it shows respect to knock and ask permission to enter before you go in.” Knocking, Christmas adds, “also reminds us that patients here are our guests, and we are the hosts, and we want to make sure we maintain that sentiment.”

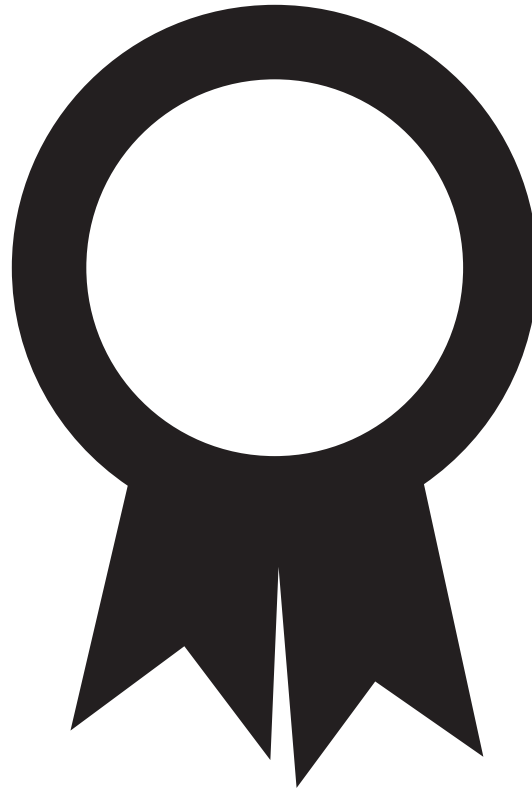
**Touch:** “There are studies showing that patients want physical contact with their doctor in an appropriate way,” says Howell, “like being touched on the elbow, hand, or shoulder. They also need to be touched emotionally,” and the main component of this is simply for the doctor to sit down next to the patient’s bed – not overhead, or way down at the foot – and be at eye level. This simple courtesy, studies have shown, makes patients feel that the physician cares more. “We want to be sitting close enough that we could reach out and touch the person,” says Christmas. “You shouldn’t be standing over a patient, you should be sitting down when you have your discussions, so they know you’re engaged, that you’re truly there, physically and psychologically.”

**Tell:** Patient surveys reflected “concerns that not every member of the care team was on the same page with the plan of care for the patient, and that created a lot of anxiety,” notes Christmas. “It just reminds us to communicate effectively, not just with the patient, but with the other people taking care of that patient,” says Howell. It’s not that doctors didn’t discuss the care plan with the patient before this program, he adds. It’s that there is room for improvement in making sure the message gets across. “If you look at studies of patients, we actually don’t do a good job of talking to them. We use medical jargon a lot, we often don’t acknowledge or confirm that they understand what we’ve said.” One solution – instead of the doctor pausing briefly as the patient says, “Uh-huh, uh-huh” – is to ask the patient, to “Tell me what you understand about what I’ve just said.”

Begun in late 2009, the program has spread from the Department of Medicine throughout the hospital. “It’s catching on,” says Christmas. “Doing something like this involves changing a culture to some degree. That takes a bit of time.” It’s too early for the change to be reflected in patient satisfaction surveys, but anecdotal evidence suggests that patients notice and appreciate how their doctors are talking to them. One patient, says Howell, described the knock on the door, the sitting at the bedside, the touch on the shoulder, and the communication with the nurse, “and said, ‘I felt like a VIP.’ That’s what we want.” ■

Frank Herlong, M.D., is the doctor's doctor, the teacher's teacher, the guy whose name pops up when you think about great, compassionate clinicians.

Soft-spoken, thoughtful, a teller of very funny stories, he's one of those rare people who is able to carry on an interesting conversation with just about anybody about practically anything – the kind of person you hope you get seated next to on an airplane or at a dinner party, who not only listens, but makes you feel like you're someone worth listening to. "His skills as a teacher are unsurpassed," says David Hellmann, M.D., the Aliko Perroti Professor of Medicine. "He won the teaching award from the Johns Hopkins house staff 13 years in a row. No one won it more often. The only way they could get him to stop winning was to put him in the Dean's office." Herlong, a hepatologist, served for 15 years as the associate dean of student affairs in the Johns Hopkins School of Medicine, where he was a mentor to an entire generation of Hopkins medical students, then stepped down in 2004 to return to teaching and seeing patients full-time. "When he teaches, he is not just paying attention to the patient's feelings, but also explaining the patient's disease at a molecular and cellular level," says Hellmann. "Frank Herlong is an example of why there needs to be a Miller-Coulson Academy of Clinical Excellence." Herlong is one of the newest members to be inducted into the Academy, which began in 2008 through the generosity of philanthropists, Mrs. Anne Miller and her daughter and son-in-law, Sarah and Frank Coulson. The Academy's mission is to recognize and support clinical excellence at Johns Hopkins Bayview. (You can read more about the Academy online by going to the Center for Innovative Medicine's website at <http://www.hopkinsmedicine.org/innovative/index.html>.)



Induction into the Academy is not an easy achievement; for each nominee, the Academy gets in touch with 24 "referees" – six patients, six "learners" (young physicians or medical students who have been taught by the nominee), six non-physician colleagues, and six physician colleagues. The process is anonymous, but a couple of Herlong's colleagues have allowed us to share their comments. One physician colleague wished that "more academic internists were able to translate to students and trainees how to listen and behave like (the) exemplary human being that Dr. Herlong is," because "medicine, its practice, our patients, and our trainees would be so much better off!" And a non-physician colleague wrote: "Dr. Herlong ...is probably one of the most intelligent people I know. He shares knowledge not only with his colleagues and residents, but the nursing staff as well... Dr. Herlong takes a special interest in each of his patients and their families.... Many of his patients are quite ill with ESLD (end-stage liver disease). He always attends the funerals of his patients to express his sympathies to their families. I admire his dedication and commitment to the practice of medicine."

We had a chance to talk with Frank Herlong shortly before his induction into the Academy. Here's some of what he had to say:

#### What's the most difficult thing to teach?

Compassion is probably the hardest thing. Compassion and empathy are innate. I think we can show examples, of how that can be incorporated into patient care, and we can reward and acknowledge it when it happens. But it is just hard to teach someone to feel empathic toward another person and another person's illness. That's different from being respectful, and committed and caring. Because doctors can provide outstanding care, even if they don't personally feel empathy toward the patient's condition.

For instance, if you have appendicitis, you want somebody to be able to go in and remove the appendix. Now, you also want them to be nice and considerate, but I don't think that requires a special kind of empathy. As opposed to, say, dealing with a person with a chronic illness, for whom we have little or ineffective treatment, and we are trying our best to help them deal with the consequence of that illness, when we may not be able to alter the natural history of that disease. And that's where, I think, empathy and compassion become extremely important. In liver disease, we tend to see a lot of people for whom our treatment is either ineffective or nonexistent. For diseases that evolve over years, it requires our helping our patients adjust to the fact that they probably aren't going to get well, and that this will be a slowly progressive disease.

#### How do you think teaching is looked at in academic medicine?

I think it is acknowledged and appreciated. It is just so hard to measure, because what do you use as a parameter to assess effectiveness and outcome? First of all, students are exposed to so many different teachers that it's hard to isolate individual contributions. It's also hard to use student opinions as to the quality of teaching; for instance, if the exam questions are particularly hard and unexpected,

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the student could say, I wasn't taught this. It's often in retrospect that the student may recognize that the teaching was actually effective. So until we can develop some form of peer assessment of teaching, it's going to be hard to measure that. Whereas, for scholarly output and research, you can look at publications, and the kinds of research questions one answers, so that's more tangible. But going over a case with a student takes a lot of time, and that's very hard to measure. At the end of the session, you would hope that the student has some appreciation for diagnosing and treating disease, but how can you measure that? And much of the teaching is done one-on-one, a single student with a single preceptor, and I don't know of any instrument you can use that can assess that objectively, and then base some kind of reward on that. It's a little bit easier to measure effect of lectures, but the individual precepting is such an important component of the teaching of medicine, and yet that's probably the hardest to measure. I don't think there will ever be a time where that kind of teaching will be assessed as research is. It's always going to be a challenge for academic medicine to evaluate the effectiveness of teaching.

CONTINUED ON PAGE 15

# How to Get a Grant: A Free Program Helps Young Investigators Navigate the Maze

What is the difference between an application that nails a grant and one that doesn't quite cut it? For young physician-scientists at Johns Hopkins Bayview, the tipping point may be a new Biostatistical Core funded by the Center for Innovative Medicine. The Core is a beacon – Dante's Beatrice, if you will – to guide young investigators as they descend into the potential hell of grant-writing.

"We funded the Core to help our investigators get funded," says David Hellmann, M.D., the Aliko Perroti Professor of Medicine and co-founder of

**Presenting your case for a grant, in a way, is not unlike "staging" a house that's about to go on the real estate market; details and presentation matter.**

the CIM, "to help people turn their good ideas into good questions, and then collect the right data to answer them." Investigators in several disciplines have turned to the Core for help unifying skills in the lab with specific technology to make sense out of vast amounts of data, such as clinical phenotyping, says Antony Rosen, M.D., Director of Rheumatology. "I believe that having this structure, with expertise in study design, database setup, and analysis is valuable for translational investigators at every stage."

"The basic idea is that there was a gap between some of the translational clinical work and the basic research going on in the laboratories on this campus," says the Core's director, Jonathan Ellen, M.D., "particularly in the capacity to design clinical epidemiologic studies, community-based research studies, implementation studies, and then analyze the results. While we had world-class physicians engaged in cutting-edge clinical programs, we still lacked that infrastructure."

For many young academic physicians, getting (or not getting) grant funding is a hurdle that can be career-changing. Not only are they inexperienced at navigating the bureaucratic maze, and asking in just the right way for a lot of money, but many of the committee members who review grant applications are well accustomed to turning them down. They have to be; with limited government funding, it's much easier to say no than yes.

Presenting your case for a grant, in a way, is not unlike "staging" a house that's about to go on the real estate market; details and presentation matter. For unfunded investigators, the Core's help costs nothing. "We provide everything from help with study design and questions, to mentorship of junior faculty before they receive their grants," says Ellen. "We participate in grant-writing efforts, both for NIH and other funders, and we help organize data bases." They provide these services to investigators who already have funding, as well.

Most of the time, Ellen says, it's not that people don't have good questions, "they just don't necessarily understand how to set it up, how to frame it in a testable way, and that's where we come in." Ellen's own background is in clinical and population research, studying sexually transmitted diseases and HIV in teenagers, and he was blessed, he says, with research mentorship early on his career.

The CIM's support "gives junior investigators both the infrastructure and support to develop applications and move on the path to independence, and to continue their work," Ellen notes. This is especially needed in the area of pediatrics, which receives comparatively fewer NIH dollars than research on aging or cancer. "What we're doing here is unique, combining the biostatistical support with clinical research mentorship, free of charge. Without question, I think we're reducing one of the major barriers to productivity for our junior faculty." ■

CONTINUED FROM PAGE 13

**When you were the dean of students, what qualities did you look for in prospective medical students?**

First of all, students have to have the academic and intellectual preparation for the complexity of medicine and studying medicine. Then there are the qualities we link with humanism. We look for students who would place the welfare of others above their own self-interest, and who actually seem to have a sense of fulfillment from their dealings with patients and their illnesses, gratification based on helping others through treating their disease. Finally, some level of commitment to making a greater contribution beyond their immediate environment, whether it's just a small town, or all the way up to the issues of public health that affect the world.

**I think being a member of a team, and coordinating the work of that team, is probably even more important than what we do as individuals.**

**Have any personal or family experiences with ill health changed the way you practice medicine?**

My mom had a chronic illness. She was a month or two short of being 100, but for the last two years of her life, she had pretty severe dementia. There was really nothing that could be done to make that better, but what made a huge difference for her was the ancillary help, through hospice; that was tremendous. As physicians, we have to look toward mobilizing non-physician resources, which can be extremely important. I think being a member of a team, and coordinating the work of that team, is probably even more important than what we do as individuals. ■

## Noted Author Gives This Year's Miller Lecture

The seventh annual Miller Lecture was delivered by Abraham Verghese, M.D., Professor for the Theory and Practice of Medicine at the Stanford University School of Medicine. An author of fiction and nonfiction as well as a specialist in infectious diseases, Verghese has written often about the struggles of people who must cope with serious illness, pain, and suffering, and their need for empathy, sensitivity, and dignity. And he has worried that compassion will be lost "in the sterile hallways of modern medical-industrial complexes, where physicians and nurses are hunkered down behind computer monitors, and patients are whisked off here and there for this and that test." Verghese's most recent book is the critically acclaimed novel, *Cutting for Stone*.

The Miller Lecture brings the Johns Hopkins medical community together each year "to think about good medicine, and to inspire us to be better doctors," says David Hellmann, M.D., the Aliko Perroti Professor of Medicine. It is made possible by the generosity of the Miller family – Thomas and Anne Miller and their daughters and sons-in-law, Sarah Miller Coulson and Frank L. Coulson, Leslie Anne Miller and Richard Brown Worley.



The Miller family, from left: Richard Worley, G. Thomas Miller, Leslie Miller, Anne G. Miller, Sarah Miller-Coulson, Frank Coulson.



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### “House calls teach the real humanity of medicine.”

John Burton, M.D., the legendary Director of the Division of Geriatric Medicine and Gerontology at Johns Hopkins for many years, recognized internationally as one of the founders of modern geriatrics, for whom the John R. Burton Care Center at Johns Hopkins Bayview is named. He was quoted in the *New York Times*, September 24, 1998.

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