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Improving Care

Sunny skies and moderate temperatures on August 26 set the tone for the inaugural running of the CHaD Half Marathon. The race set off from the starting line at 4:30pm. The unusual afternoon start challenged the almost 600 runners—from the starting line in the village of Hanover Center, to the finish line on the Dartmouth College Green—to reach the finish in the light of day.

The 13.1 mile distance took runners on a journey through shady tree lined roads, down sloping hills past farms and into the heart of downtown Hanover. Musicians of varying styles lined the route to keep the runners occupied and grooving, while CHaD kids had sent messages of encouragement, which were posted along the way.

Spectators lined the home stretch to the finish line, welcoming the winner in the Men’s Division, Sam Davis of Colchester, in 1:13:21, and followed by the Women’s Division winner Emily Raymond from Medford, MA in a time of 1:21:21. While the majority of runners were from New England, participants came from as far away as the United Kingdom, Bermuda, and Alaska.

At the finish, runners, their friends and families, and the community all gathered on Hanover’s Main Street for a festive Taste of Victory Block Party. Local restaurateurs offered post-race fare to the hungry competitors, and the close to 300 volunteers who made the day the shining success that it was. The collective efforts of dedicated sponsors, volunteers and participants raised over $120,000 for the patients and programs at CHaD... A remarkable feat for this first time event.

Get it on your calendars now, so you don’t miss the second annual CHaD Half Marathon, Saturday, August 25, 2007.

(Continued on pg. 2)
Over the years, Little has applied his passion and talent for program building—along with his experience and expertise as a clinician, researcher, and teacher—on both the national and international fronts. His exposure to international health began with a life-changing experience back in 1966. "I was a Public Health Service physician in the Peace Corps, got assigned to Africa for two years, and elected to stay on for a third year as the Peace Corps Medical Director for Africa," Little says. "That’s where I became interested in maternal and child health in the international arena. I was struck by how great the need was, and had actually intended to go back into international health full-time.”

Little’s plan got sidetracked by two very important people in his life. “I met and married my wife, Carol (Carol Little, MD, now a faculty member at DHMC) while doing my pediatrics force for the AAP’s Neonatal Resuscitation Program. "I still feel really moved and married my wife, Carol (Carol Little, MD, child development specialist and later made two trips to Malawi and Egypt, when he served as a technical advisor to USAID in Egypt; I also spent time in Malawi by going back to where I was in the Peace Corps to do volunteer work.” Little says. "Much of my work has been in critical services and regional perinatal program development."

Most recently, he has helped to develop a new program between Dartmouth Medical School (DMS) and the Kosova Ministry of Health. “It builds on the great work that Dr. James Strickler and others have been doing over the last five years,” explains Little, a professor of pediatrics and of obstetrics and gynecology at DMS. “Our aim is to make sustainable improvements in the health and health care of pregnant women and their infants in Kosova.”

Recently, Little was elected Pediatrician of the Year by the NH Chapter of the American Academy of Pediatrics (AAP) in recognition of his many outstanding contributions to his field of medicine. He has also just been asked to chair a global implementation task force for the AAP’s Neonatal Resuscitation Program. “I still feel really energized with what I’m doing,” he says. “I don’t think I’m a person who can retire—I love what I do too much.”

TRILOGY is a state-of-the-art technology in radiation therapy that offers enhanced treatment delivery techniques to conventional radiation therapy patients while providing new treatment opportunities for patients who were not considered good candidates for conventional treatment options. An example of such cutting edge radiation therapy, called radiosurgery, uses very high doses of radiation to completely eradicate a tumor—one often in only one treatment. The very high doses used in radiosurgery destroy normal cells too, and so must be targeted accurately in order to leave surrounding healthy tissue unharmed. Radiation therapy takes advantage of a critical difference between healthy cells and cancer cells to “melt” a tumor over time: normal tissue exposed to lower doses is able to repair the damage caused by radiation, while cancerous tissue cannot.

In June, Norris Cotton Cancer Center began treating cancer patients with the Trilogy™ System from Varian Medical Systems. Trilogy™ combines specialized medical imaging with precise and powerful radiation delivery in order to exactly target only the tumor with the highest radiation dose possible. The addition of Trilogy™ places the Cancer Center among the top high-technology programs in the country, and makes it the only center in Northern New England offering the newest advances in radiosurgery and image-guided radiation therapy, including extracranial radiosurgery.

“Until Trilogy, we can offer the very latest in high dose, precision radiation therapy,” says Alan Harrford, MD, PhD, Acting Chief of Radiation Oncology. “We can pulse radiation to a tumor that moves during treatment—turning on and off the beam to target only the tumor in a lung that is moving as the patient breathes. We also can treat a tumor previously considered too risky to treat, because of where it is in the body or because of the possibility of damaging important organs and tissues around it.”

The Trilogy™ System can be fine-tuned to a focal point of a one-millimeter diameter sphere, and includes high definition x-ray and CT (computed tomography) imaging, and automated patient positioning. Together, these features enable precise tracking of a tumor to ensure that each high-powered beam is delivered to the right point, at the right time. As a result, Trilogy™ makes radiosurgery possible in other parts of the body, and provides important new treatment options for patients with head and neck, pancreas, lung, and metastatic cancers. Because it is less invasive and enables treatment of smaller tumors at earlier stages, Trilogy™ also offers an attractive alternative to traditional surgery, particularly for patients in poor health or with complicating conditions.
Diabetes is now considered an epidemic. Fueled in large part by the growing problem of obesity in the US—the Centers for Disease Control (CDC) estimates that 65 percent of American adults are either overweight or obese—the incidence of diabetes among adults in the US increased 41 percent between 1997 and 2003.

"Some people have even used the term ‘diabetes’ to describe the actual epidemic, since the two often combine to increase cardiovascular disease, the risk of other complications (vision loss, loss of kidney function, and loss of nerve function), and early morbidity and mortality," explains Dr. John Butterly, executive medical director at DHMC. "These are complex issues that are difficult to manage; they help to illustrate why diabetes-related care is a major cost to the healthcare system."

The good news! The disease has certain characteristics that make it manageable. "Diabetes is common, it’s chronic, and it has substantial effects on the quality of life and life expectancy of individuals," Butterly says. "And we know that there are evidence-based measures we can take to improve both quality of life and survival. These are all characteristics you see in a disease process that you want to put great effort into managing."

**Tracking Data**
Under Butterly’s direction, DHMC is doing just that. Dartmouth-Hitchcock Clinic (DHC) is among 11 physician groups selected by the Centers for Medicare and Medicaid Services (CMS) to participate in one of the first pay-for-performance initiatives for physicians. Begun in April 2005, the three-year demonstration project is studying whether improving care in a proactive and coordinated manner also reduces costs.

The initiative seeks to align incentives for physician groups to manage overall care of their patients, particularly those with chronic illnesses who account for a significant proportion of Medicare expenditures. "Basically, CMS is saying, ‘What can you do to address the chronic disease and coordinated care management needs of these individuals? Show us your data, and if you can demonstrate that you’ve actually improved quality and efficiency of care, we’ll give you a bonus,’" explains Melanie Mastanduno, who as director of quality measurement is focused on developing tools to help DHMC monitor, evaluate, and improve its delivery of care.

One process change reflecting the overall effort is the Gold Star Tracking initiative. "Using their claims history, it allows us to flag those patients who have the most complex series of medical problems that may escalate and require treatment or additional outpatient management," Mastanduno says. "The flag appears in our Clinical Information System (CIS), so it can be integrated into the daily work of our caregivers. This alerts them to particular high-risk patients, in the hope of anticipating the whole range of a patient’s needs before they get into trouble."

**Shared Information Standards Care**
Establishing a standardized level of care for diabetes across the organization is one of the keys to achieving success with the CMS initiative, according to Dr. Richard Comi, section chief of endocrinology. "We’ve made a number of important changes—including implementing more stringent blood sugar control protocols for patients who have been hospitalized and admission screening for patients over 40 who are obese or have multiple risk factors for diabetes,” he says. "But perhaps the biggest improvement is the CIS diabetes flow sheet, since it allows everyone in the institution to look at the same information in the database about diabetes care.”

The groundwork for the inpatient improvements was laid in early 2004, when the American College of Endocrinology published standards for what blood sugar levels should be in hospitalized patients. "Before that, we’d never had any guidelines to follow," explains Mary Wood, RN, inpatient diabetes clinical nurse specialist. "Here at DHMC, we took the ball and ran with it, developing new insulin order forms and providing education for all nurses, house staff, dietitians, and pharmacists about a new approach to aggressive insulin therapy and striving for these new targets.”

"On the inpatient side, there’s a lot of evidence that shows if you provide excellent care to diabetes patients in the hospital you can really improve patient outcomes in terms of healing, survival, and reducing readmission to the hospital,” Comi adds. "In this area, we think we can hit our quality targets quickly and well."

**Educating Patients and Providers**
Providing consistent information, emphasizing areas where experts agree on the best treatment for diabetes, is an essential part of the patient education process. "I call it ‘diabetes self-management,’ because our goal is to make patients excellent diabetes care providers themselves," says Rita Katay, RN, who is diabetes education coordinator for the adult outpatient diabetes clinic. "I think diabetes is especially challenging for patients to manage because it not only places restrictions on their lifestyles—requiring things like proper diet, weight control, and regular exercise—it can be made more difficult to control by life stressors and other chronic illnesses,” she explains.

"I’ve had (type I) diabetes since age 11,” says Timothy Driscoll, who was referred to Katay by endocrinologist Dr. Paul Beisswenger. "While I’ve done reasonably well keeping my blood sugar in check for a number of years—I walk regularly, am careful with my diet, and have become very knowledgeable about self care—I still found estimating ratios of carbs to the amount of insulin I needed difficult to manage. Rita is teaching me how to use the insulin pump which will be a great way for me to manage my diabetes on a micro-fine level. As a result, I’ll be able to have a more normal lifestyle.”

In addition to helping create the Diabetes Toolkit for patients, Katay and Wood work together to coordinate a variety of educational programs for DHMC clinicians and community providers. "Diabetes is a complex disease—the more that patients and healthcare professionals know about the disease, the better off everyone will be, because better understanding promotes better care,” says Wood.

It’s Everyone’s Responsibility
For every patient like Driscoll, there are are potentially many others who are not currently receiving the appropriate check ups and tests they need to keep their diabetes under control.

That’s why Butterly sent out a letter last spring to all patients who have been treated at DHMC for diabetes in the past, reminding them about the importance of seeing their primary care physician at least once a year. The visit(s) should include blood pressure, weight, and foot sensation evaluation and prescription renewals for medications and home-testing supplies; hemoglobin A1c blood testing every three months; and annual fasting LDL (bad cholesterol) level, microalbumin (protein), and dilated eye exam tests. In response to the roughly 3,000 letters sent, an impressive 650 appointments were made by patients.

"My desire is to have every patient get this letter every time they have an appointment, and we’re working on putting a system in place to make that happen," says Butterly.
Finding New Ways to Prevent and Treat Cancer

Cancer is truly a worldwide phenomenon, but I don’t think that means that it’s inevitable,” explains Dr. John Baron, professor of medicine and of community and family medicine at Dartmouth Medical School (DMS) and an investigator in the Cancer Epidemiology and Chemoprevention research program at Norris Cotton Cancer Center.

Dr. Baron, who provided a perspective on the global burden of cancer as part of the Dartmouth Community Medical School program, Cancer, Nutrition and the Environment, has been a leader in epidemiological research and cancer prevention for 25 years. His research has been varied and extensive, in the US as well as in Scandinavia, other parts of Europe, and South Asia.

“The fact that cancers vary a lot in their geographic distribution is one important piece of evidence that it is preventable. For example, if breast cancer is more prevalent in North America than in Asia then we can learn how to be more like Asians with respect to the disease—perhaps we can reduce the incidence of breast cancer or largely avoid it in this country.”

**Testing Simple Interventions**

Dr. Baron recently returned from Bangladesh (his third trip there in the last 12 months), where he has been sharing his expertise in conducting clinical cancer prevention trials. “I helped a colleague of mine there get funding for the trial,” he says. “The study we’ve launched is building on an existing National Cancer Institute (NCI) supported study of people with varying degrees of arsenic exposure.”

Bangladesh’s low-lying geography and monsoon climate make it susceptible to flooding. “As a result, the country historically had a largely surface water supply and had a lot of trouble with diseases like cholera, until the 1960s and 70s when some of the international health organizations helped to put in wells,” Baron explains. “Then, about 15 years ago, it was discovered that some of the ground water from the wells was badly contaminated with (naturally occurring) arsenic.”

It’s now estimated that there are more than 10 million people with high levels of arsenic contamination. “There are some characteristic skin lesions that are very specific for arsenic, and those lesions are thought to be a marker for increased risk of skin cancer,” he says. “And if experience can be extrapolated from other parts of the world like China, these people will also be at increased risk for lung, bladder, and kidney cancers, and probably at increased risk for heart disease, diabetes, and hypertension.”

Our goal is to see if providing Vitamin E and Selenium can help reduce cancer risks,” says Baron. “Vitamin E is an antioxidant, and it’s thought that one of the mechanisms for the cancer risk associated with arsenic has to do with oxidative damage. And Selenium, as it turns out, is a mineral that can be used to treat acute arsenic toxicity. What we’re dealing with, though, is chronic exposure accumulated over decades, so we don’t know if it will prove effective in this case.”

**Targeting Colorectal Cancer**

“Testing the effectiveness of simple, cheap interventions like those being studied in Bangladesh has been a hallmark of Baron’s research. He has been following an intriguing line of investigation using similar techniques to study chemoprevention of colorectal cancer. For more than 20 years, Baron has been leading a series of large, NIH-funded studies conducted jointly by doctors and researchers from Norris Cotton Cancer Center at DHMC and at a number of other institutions across North America. “Our work has focused on finding out how to prevent adenomatous polyps—benign growths in the large bowel that are fairly common for people in their 60s and may turn into cancer,” says Baron, who has been involved in all four trials, and served as a principle investigator for three of them.

“We’ve tested antioxidants, calcium, aspirin, and folic acid (a B vitamin),” he explains. “Of the four, calcium and aspirin worked. And with both, we saw about a 35 percent reduction in high-risk adenomas and about a 20 percent reduction for all adenomas including ones that aren’t so worrisome. In our current trial, we want to see if vitamin D adds something to the effectiveness of calcium.”

**Crossing Many Disciplines**

Dr. Baron isn’t yet able to pinpoint exactly why some agents prove effective and others don’t. “We certainly have some ideas, but it gets very complex at the biochemical level,” he says. “With cancer prevention you need to find agents that are very safe but produce enough of an effect to be helpful.”

“But it’s fascinating trying to find the answers. My line of work is great because it stands at the intersection of disciplines like clinical medicine, prevention, statistics, biology, and genetics. Integrating them into a single picture and research program is really fun.”

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**What’s in Your Drinking Water?**

In 1994, when Dr. Joshua Hamilton and his colleagues at Dartmouth Medical School (DMS) began studying arsenic, they were one of the few research groups focused on this global and emerging environmental health issue.

“We realized early on that the problem was more complex than any one scientist or discipline could tackle, so we formed this collaborative group and got a grant from the National Institutes of Health,” explains Hamilton, who as professor of Pharmacology and Toxicology at DMS has served as principal investigator on the grant for 12 years.

“Today, arsenic is considered the single greatest environmental chemical of concern regionally, nationally, and worldwide,” says Hamilton, who spoke recently at a special evening program entitled, Cancer, Nutrition and the Environment.

The program was part of the Third Annual Great Issues in Medicine and Global Health Symposium on Cancer, held November 15-17 at DHMC and Dartmouth College.

**Recognizing Low-Dose Risks**

Arsenic has long been recognized as the “king of poisons and the poison of kings” for its fatal effect when administered in high doses. But not until fairly recently has medical research shown that long-term exposure to low doses can pose a significant threat to human health.

“We first learned about this from epidemiology studies in places like Bangladesh and Taiwan,” Hamilton explains. “UNICEF had gone in and dug wells so people wouldn’t drink the surface water, which contained cholera and other diarrheal diseases. What they didn’t know was that the geology in those areas has a lot of arsenic in it, so the ground water...
became contaminated. Now, two or three decades later, we’re seeing huge increases in a host of disease risks.”

“Our group and others have done studies here in the US (in New Hampshire, the Southwest, and the Rocky Mountain States) and large parts of South America—in areas that have similar natural formations of arsenic in rock,” he says. “And our research has shown that people drinking even lower levels of arsenic in the Western World also carry these very high risks of disease that include several forms of cancer, heart disease, diabetes, and reproductive or development problems.”

**Interfering With Hormones**

Dr. Hamilton and his team were the first to report in 2001 (in rat cell line study) that even at extremely low levels, arsenic acts as an endocrine disruptor—an important factor in its ability to increase risk of disease.

“What we’ve found is that arsenic can interfere with the ability of hormones to signal properly,” he explains. A number of other animal studies have confirmed the group’s molecular study findings. “We’ve got a fish model that involves a species indigenous to the coast of New England that can transition back and forth between fresh and salt water,” says Hamilton. “This ability is normally regulated by the hormones that we study. So, if arsenic is an endocrine disrupter it should block their ability to transition, and it does—we’re seeing clear indications that this hormone interruption is important.”

Most organic chemicals like pesticides or PCBs either work to mimic a hormone or block it, says Hamilton. “Arsenic does neither of those things,” he explains. Instead, arsenic enhances hormone signaling, and at slightly higher doses it suppresses hormone signaling. We think we may actually see an entirely different pattern of diseases in higher dose areas such as Bangladesh or Taiwan, than in lower dose areas like those in the US and South America.”

**Eating What’s Good for You**

Dr. Willett first became a critic of the USDA’s Food Guide Pyramid after serving as a principle investigator in the well-known Nurses Health Study. The study, one of the largest ever conducted on the long-term effects of diet, scored participants on their body mass, food choices, and exercise habits, and used the data to accurately determine their risk of heart disease.

He employs a similar, easy-to-use system, called the “Body Score,” in a new book co-written with best-selling cookbook author Mollie Katzen—Eat, Drink and Weigh Less, A Flexible and Delicious Way to Shrink Your Waist Without Going Hungry. The book emphasizes nine basic “Turning Points” or gradual changes to help people achieve and maintain a healthy weight while reducing their risk of chronic diseases: eating plenty of fruits and vegetables; eating more good fats; upgrading your carbohydrates; choosing healthy proteins; staying hydrated; drinking alcohol moderately; taking a multivitamin every day; being more active; and eating mindfully through each day.

Dr. Willett’s epidemiological studies—using both questionnaire and biochemical approaches—reveal a wealth of associations between dietary factors and diseases like cancer, e.g., links between the intake of red meat and colon cancer, alcohol and breast cancer, and smoking and increased risk of bladder cancer, and lymphopena and a decreased risk of prostate cancer.

“With careful attention to the foods we eat, combined with not smoking and regular physical activity, we find that over 80 percent of heart attacks and over 70 percent of colon cancers could be avoided,” says Willett.

**Linking our Food Choices to Cancer Risk**

To help people make better choices about what they eat, Willett and his colleagues at the Harvard School of Public Health have created their own evidence-based guidelines, called the Healthy Eating Pyramid. Major distinctions between their version and the USDA’s include: placing daily exercise and weight control at the base; replacing processed carbohydrates with whole grain foods; substituting plant oils (“good fats”) for saturated and trans fat; limiting milk and cheese consumption (and recommending calcium supplements); and placing foods like white rice, white bread, potatoes, white pasta, and sweets at the very top to be used sparingly.

**ANNUAL ISSUES IN MEDICINE
GLOBAL HEALTH SYMPOSIUM**

**Eating What’s Good For You**

Dr. Willett’s research has revealed associations between dietary factors and disease like cancer.

“Until very recently, reduction of total fat in the diet was the centerpiece of dietary advice,” says Willett. “Unfortunately, replacing fat with carbohydrate does not reduce risk of heart disease. But clearly, in the type of fat in the diet can greatly reduce risk of heart disease.”

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**Shaking Up the Food Pyramid**

One of the best examples of Willett’s research conflicting with conventional wisdom is the US Department of Agriculture’s (USDA) Food Guide Pyramid. He has asserted that the USDA pyramid was built on “shaky scientific ground,” parting too much emphasis on guidelines like limiting all fats, promoting large amounts of starch (like bread and pasta) in the diet, and encouraging several servings of dairy products per day as a means of combating osteoporosis.

**Raising the Bar on Safety**

Thirty years of research about diet and long-term health. His findings based on 30 years of research on Cancer—you came away with some

Chances are, if you went to see Dr. Walter Willett speak at DHMC Grand Rounds on November 17—part of the Third Annual Great Issues in Medicine and Global Health Symposium on Cancer—you came away with some different ideas about what constitutes a healthy diet.

Dr. Willett—professor of Epidemiology and Nutrition and chairman of the Department of Nutrition at Harvard School of Public Health, and professor of Medicine at Harvard Medical School—is considered to be one of the world’s foremost authorities on the long-term health consequences of food choices.

In his presentation, The Effects of Diet on the Occurrence of Cancer and Other Major Diseases, Willett shared findings based on 30 years of research about diet and long-term health. His study results have at times differed about diet and long-term health. His findings based on 30 years of research on Cancer—you came away with some

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Fourteen years ago, Quechee, VT, resident John Fennessey came to the Emergency Department at DHMC with a lump in his throat. It turned out to be cancer.

Under the care of oncologist Dr. Pamela Ely, Fennessey fought a long, difficult battle with cancer that required chemotherapy and radiation, and eventually a bone marrow transplant. Through it all, Fennessey recalls, "Dr. Ely was very kind and completely honest with me. I never felt that she was giving me false hope. If I asked her a question, she answered it, straightforward. I like that.”

Fennessey ultimately prevailed against the cancer and gratefully credits Dr. Ely with saving his life. In recent years, he has been coming to DHMC for ongoing care from cardiologist Dr. John Butterly and endocrinologist Dr. John Turco—both of whom were recommended to him by Dr. Ely. To Fennessey's delight, the qualities he appreciated in Dr. Ely were ones he found in both Drs. Butterly and Turco. "Dr. Butterly is a very caring man; the sort of doctor I feel comfortable with," notes Fennessey. Of Dr. Turco he says, "he's a nice guy and very straightforward with me about my diabetes.” Fennessey also notes an added bonus: he and Dr. Turco share a passion for golf.

Although Fennessey moved from Quechee to Lincolnville, Maine in 2003, he never considered receiving his care anywhere but DHMC, despite the four-hour drive to Lebanon. "They [Drs. Butterly and Turco] are exceptional doctors and there's no one in Maine I'd rather see," he says matter-of-factly.

Fennessey is not only loyal to DHMC, he’s also generous, having recently included the Medical Center in his estate plans. While Fennessey, a longtime donor to both the Fund for Dartmouth Medical School and the Dartmouth-Hitchcock Annual Fund, is no stranger to supporting DHMC, his latest gift will significantly enhance cancer research and patient care at DHMC’s Norris Cotton Cancer Center, a place he has an especially strong connection to. "I feel that I would have been gone a long time ago if it wasn’t for the Cancer Center. I was really ill, and they made me better.” —John Fennessey

Fennessey hopes that his ultimate gift will inspire others to remember DHMC in their estate plans. Working with the DMS and DHMC Office of Gift Planning, he notes, made the process "very easy and uncomplicated." "If you have enough money to make your family comfortable, you should consider putting it toward something worthwhile,” Fennessey explains. “That’s why I’m supporting DHMC.”

As of October 27, the Transforming Medicine Campaign had raised over $135 million in gifts and commitments. This impressive accomplishment was made possible through the generosity of our community, alumni, patients, and friends, over 200 of whom joined DHMC and DMS leadership and faculty for the September 28, 2006 Annual Benefactors Appreciation Reception.

Highlights of the evening included a moving keynote address by Dr. Ira Byock, director of DHMC’s Palliative Care Program, as well as announcements of Campaign achievement, and plans for a visionary new translational and clinical research facility to be built on the grounds of the Medical Center. In addition, Nancy Formella, acting president of Mary Hitchcock Memorial Hospital, recognized Professor J. Brian Quinn as the recipient of this year’s Outstanding Community Ambassador Award for his service to DHMC as chair of the 500-plus member Dartmouth-Hitchcock Assembly of Overseers, a member of the MHHI and Dartmouth-Hitchcock Clinic boards, and most recently as a member of the NCCC Working Group for the Transforming Medicine Campaign. To learn more about the Transforming Medicine Campaign, visit our Campaign website at http://transmed.dartmouth.edu.
Memorial Hospital, the event was attended by more than 100 people. The event focused on understanding how certain abnormal serotonin receptors in SIDS victims’ brains affect temperature control and sleep.

Underlying Mechanisms

These potential risk factors only tell part of the story in understanding the root causes of SIDS. Years of research spearheaded by Dr. Hannah Kinney, a pediatric neuropathologist at Boston Children’s Hospital, have revealed that babies who die from SIDS may also have abnormalities in the Medulla— the area of the brain that controls autonomic functions such as breathing, heart rate, blood pressure, sleep, and temperature control. “This is where Darnall’s work is primarily focused—he is principle investigator (PI) of two projects within a large multi-centered program project grant funded by the National Institutes of Health (NIH).”

“Dr. Robert Darnall, a neonatologist and SIDS researcher, explains that it’s multi-factorial.” How close are we to finding a cure for SIDS? “I think we’re perhaps five years away from being able to devise some tests that could help us to identify at-risk infants,” says Darnall. The pharmacological piece of it is much more complicated. Right now, we have many hypotheses that we hope will prove to be important. But, I think we’re making progress.”

“SIDS is more often seen in colder months, so there may be a relationship between cold climate and over-heat- ing, particularly in cases where people have a heat source that is not ther- mostatically controlled,” says Darnall. “There’s also the controversial issue of bed-sharing, which the APP has recently come out against.”

Identifying Risk Factors

Still, SIDS remains the leading cause of death among babies between 1 month and 1 year of age in this country, claiming the lives of about 2,500 infants per year. “We define SIDS as the sudden death of an infant under one year that remains unexplained after a thorough case investigation including a complete autopsy, examination of the death scene, and review of clinical history,” explains Dr. Robert Darnall, a neonatologist and SIDS researcher.

“It’s clear that the highest incidence occurs between two and three months of age—at a time when changes in brain development make these babies particularly vulnerable—but we still don’t know the cause,” he says. “We do know that it’s multi-factorial.”

In addition to smoking— which may hamper breathing and/or could produce hypoxia (low oxygen in the brain) in vulnerable infants—a number of other potential risk factors have been identified. These include: smoking, drinking, or drug use during pregnancy; poor prenatal care; prema- turity or low-birth weight; smoke expo- sure after birth; and overheating from excessive sleepwear and bedding.

“I’ve said patients are partners in their care, and so giving them access to information about how we do, what other patients say about us, and what some of our outcomes are is part of that care and what they need to make more informed healthcare decisions.”

A Patient’s Perspective

One highlight of the evening came when PJ Hamel, breast cancer survivor and patient ambassador for the Comprehensive Breast Program, shared her perspective. “I literally owe my life to you folks here at DHMC, and to my oncologist and operations team.”

“Each speaker had an important perspective to share with the rest of the group about some of the challenges and rewards of having gone down that road,” says Mastanduno. “We’ve said patients are partners in their care, and so giving them access to information about how we do, what other patients say about us, and what some of our outcomes are is part of that care and what they need to make more informed healthcare decisions.”

Looking Out, Looking In

“The idea for holding a seminar on transparency really came about at Nancy’s request,” explains Melanie Mastanduno, who as director of quality measurement helped organize the event. “She wanted us to reflect on what we’ve accomplished to date, but then to look ahead to improvement—it’s about incorporating the patient voice in our work and getting clinical teams thinking about how to move forward.”

“It’s been a remarkable evening. Having a hospital admin- istrator, a patient, an advanced practice nurse, and two physicians all sharing insights about transparency and improving our delivery of care is really what this effort is all about,” Colacchio said.

Sharing Stories, Improving Care

OVER THE PAST TWO YEARS, since it began to show performance rates for medical treatments to its patients and the public, DHMC has quickly become a national leader in transparency. The medical center’s Quality Reports website now provides information and results from 19 different cate- gories of service (see sidebar for participating programs).

To celebrate the success of the transparency effort—and to feature perspectives on using the Quality Reports website to improve patient decisions and clinical care—DHMC held an event entitled, Transparency & Transformation: Bringing it Home, on July 13. Hosted by Dr. Thomas Colacchio, president of the Dartmouth-Hitchcock Clinic, and Nancy Formella, acting president of Mary Hitchcock Memorial Hospital, the event was attended by more than 100 faculty and staff.

“The idea for holding a seminar on transparency really came about at Nancy’s request,” explains Melanie Mastanduno, who as director of quality measurement helped organize the event. “She wanted us to reflect on what we’ve accomplished to date, but then to look ahead to improvement—it’s about incorporating the patient voice in our work and getting clinical teams thinking about how to move forward.”

“It’s been a remarkable evening. Having a hospital admin- istrator, a patient, an advanced practice nurse, and two physicians all sharing insights about transparency and improving our delivery of care is really what this effort is all about,” Colacchio said.
Marie Bakitas, DNcSc, ANPnC, AOCn, FAAc has received the Anthony Di Guida Dea Mu Prize for Excellence in Scholarship & Dissemination from the Yale University School of Nursing (YnS). The prize is awarded annually to a publishing YnS doctoral student who "demonstrates creative conceptualization of a complex clinical problem for study, methodological and analytic excellence," and whose research "offers promise in promoting a healthier population." Dr. Bakitas, a nurse practitioner in the Section of Palliative Medicine at DHMC, earned this distinction as a result of her doctoral research in chemotherapy-induced peripheral neuropathy, a condition which, though difficult to pinpoint, can interfere with cancer treatment and is often reported by chemotherapy patients as disruptive to their daily lives.

Dr. John Butterfly received the Medical Staff Award for outstanding service to hospital and community at the New Hampshire Medical Association’s 112th Annual Meeting. Butterfly is a cardiologist and DHMC’s Executive Medical Director. He serves on more than 14 hospital committees, focuses on enhancing various aspects of quality and the delivery of patient care, and is chairman of DHMC’s Business Ethics Task Force. An associate professor of Medicine at Dartmouth Medical School, he teaches at undergraduate, graduate and postgraduate levels.

Dr. Elliot Fisher, professor of epidemiology and of community and family medicine at Dartmouth and the Center for the Evaluation of Clinical Sciences, was among the 65 new members elected to the Institute of Medicine (IOM), entitled among the nation’s premier accolades for contributions to health and medicine. Fisher is also founding director and now senior associate of the IOM’s US Outcomes Group of the Veterans Affairs Medical Center in White River Junction, Vermont. He teaches in the clinical evaluation sciences master’s program and coauthors the Dartmouth Atlas of Health Care. Fisher has been recognized for landmark work documenting that regions with higher medical spending do not provide better quality or achieve better long-term health outcomes. His research focuses on clarifying the mechanisms of harm from too much medical care, involving the causes of geographic variations in medical practice and spending, and the consequences of these variations for health and health care; and the development of measures of the quality and costs of care.

Dr. Diane Harper, community and family medicine and obstetrics/gynecology, has been named the 2006 New Hampshire Family Physician of the Year by the New Hampshire Academy of Family Physicians and was honored at the annual meeting on October 28. Harper magazine has also named her among the five women in the US who earned this distinction as a result of her doctoral research in chemotherapy-induced peripheral neuropathy, a condition which, though difficult to pinpoint, can interfere with cancer treatment and is often reported by chemotherapy patients as disruptive to their daily lives.

C. Everett Koop Medical Science Complex Unveiled

The Center for Molecular, Cellular, and Translational Immunological Research at Dartmouth Medical School was recently awarded nearly $12 million by the National Center for Research Resources, a part of the National Institutes of Health. The DMS carriageway is one of 11 Centers of Biomedical Research Excellence (COBRE) to receive either new or renewed funding totaling $117.3 million. For DMS, this represents continued funding that began in 2001, and will total over $230 million. The DMS COBRE works in conjunction with the University of New Hampshire's Institute for Informatics and Translational Investigators in New Hampshire with broad potential for understanding and treating diseases of the immune system and cancer.

The Everett Koop Medical Science Complex will bring state-of-the-art research and exceptional academic programs together in close proximity to clinical and patient care areas at DHMC.

Representatives of Dartmouth College, Dartmouth Medical School, and Dartmouth-Hitchcock Medical Center recently unveiled plans for a visionary new translational and clinical research facility to be built on the grounds of Dartmouth-Hitchcock Medical Center.

This innovative facility will be named in honor of former US Surgeon General C. Everett Koop, MD, a Dartmouth College graduate who dedicated a lifetime of service to the nation—virtually defining the art and science of healthcare advocacy on behalf of patients. The C. Everett Koop Medical Science Complex will bring state of the art research and exceptional academic programs together in close proximity to clinical and patient care areas in uniquely designed environments intended to foster collaboration and discovery.

The scientific investigation currently housed in the Vail/Remens/Borwell buildings will be expanded with an emphasis on multi-disciplinary problem solving in areas including neuroscience, cardiovascular science, immunology/infectious diseases, and other unifying areas. These laboratories will bring together investigators from different “home” departments. The new building that will house the Center for Evaluative Clinical Sciences will be joined to the translational sciences building by LeBaron Commons, which will also house educational programs for CECS and integrative conference spaces.

Investigators in CECS, focusing on health care delivery, optimizing care at the national to the local level, and evaluating new interventions will interact with “bench scientists.” Such a physical juxtaposition will lead to a more deliberate flow of knowledge from the bench to the bedside to the community and back. Dartmouth will be positioned as a leader in designing the future of health care through excellence in science at all levels. The new facilities are crucial to attracting and retaining the best faculty and students, and positioning Dartmouth Medical School as a leader in clinical and translational sciences.

Construction is slated to begin in late Summer 2007 with initial occupancy Fall 2009. More details on this exciting new complex are posted on the DMS, DHMC and Transforming Medicine websites.