

PROFILE 2012

There's No Other Hospital Like It

NIH CLINICAL CENTER

DIRECTOR'S ANNUAL REPORT

U. S. Department of Health and Human Services

National Institutes of Health

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Image: Dr. Melinda Merchant, Pediatric Oncology Branch, National Cancer Institute, snapped these shots of the Healing Waters statue and fountain in each season. Healing Waters, a work of art by Azriel Awret, is located in the Clinical Center's west Atrium courtyard. The bronze sculpture depicts a young woman drinking water from her cupped hands, referencing the Biblical healing waters of Bethesda.

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Message from the director

On September 23, 2011, the NIH Clinical Center received an historic honor for its decades of service as a model clinical research hospital. The Mary and Albert Lasker Foundation named the Clinical Center as recipient of the 2011 Lasker~Bloomberg Public Service Award. The award recognizes the Clinical Center's rich history in medical discovery and clinical research training. The award also honors the nearly half a million patients and healthy volunteers who have participated in clinical research here since the hospital opened in 1953. I invite you to read more about the award and the community's celebration in this edition of *Profile*.

The Lasker Award honors a collective body of work and inspires future endeavors.

In 2011, progress was made in carrying out recommendations from the Congressionally mandated NIH Scientific Management Review Board's "Report on the NIH Clinical Center." The report's call for a streamlined governance structure led to the creation of the Clinical Center Governing Board, made up of Institute Directors, that will complement the existing NIH Advisory Board for Clinical Research. The Clinical Center Governing Board will explore new, more stable funding models and new approaches for opening the doors of the Clinical Center to external collaborators.

During 2012, one goal we have is to provide external investigators with new partnerships with intramural investigators that will allow access to the Clinical Center's special resources. These resources include our imaging capabilities, the pharmacy's "good manufacturing practices" facility for formulating drugs for clinical trials, the portfolio of clinical research training programs, our unique patient populations, and informatics tools.

As President Harry S. Truman said when he placed the Clinical Center's cornerstone in 1951, "Modern medicine must find ways of detecting...diseases in their early stages and of stopping their destructive force. That will be the major work of this clinical research center." And it continues to be the Clinical Center's work, centered on exceptional patient care and an unrivaled environment for clinical research.

John I. Gallin, MD

CC Director

Our Vision

As America's research hospital, we will lead the global effort in training today's investigators and discovering tomorrow's cures.

Our mission

To provide a versatile clinical research environment enabling the NIH mission to improve human health by:

- investigating the pathogenesis of disease;
- conducting first-in-human clinical trials with an emphasis on rare diseases and diseases of high public health impact;
- developing state-of-the-art diagnostic, preventive, and therapeutic interventions;
- training the current and next generations of clinical researchers; and,
- ensuring that clinical research is ethical, efficient, and of high scientific quality.

Recent NIH Clinical Center Achievements

In 2011, The Clinical Center:

- Received the Lasker~Bloomberg Public Award “For serving since its inception as a model research hospital — providing innovative therapy and high-quality patient care, treating rare and severe diseases, and producing outstanding physician-scientists whose collective work has set a standard of excellence in biomedical research.”
- Continued the NIH-Project SEARCH project. The NIH-Project SEARCH program graduated 12 young adults with disabilities from a 30-week unpaid internship at the CC in June. The Clinical Center was chosen as the 2011 Employer of the Year by Maryland Works, Inc., for its NIH-Project SEARCH pilot.
- Made strides in opening the doors of the Clinical Center to external investigators. Input from potential collaborations was sought through a formal call for information and will guide future plans.
- Explored a new Bench-to-Bedside program that will complement the one established by the CC in 1999. Funded projects will use CC facilities and involve extramural and intramural collaborators.
- Launched a new Medical Research Scholars Program for medical and dental students. The program will offer research experiences with intramural investigators from across NIH in basic science laboratories and in clinical and translational research conducted at the Clinical Center.
- Expanded international training initiatives in clinical research. The CC’s *Introduction to the Principles and Practice of Clinical Research* course was offered in Russia for the first time in November. Nursing leaders taught evidence-based practice in China in April.
- Acquired a fully integrated whole-body simultaneous positron emission tomography (PET) and magnetic resonance imaging (MRI) device. The purchase of the scanner was made possible through the Center for Neuroscience and Regenerative Medicine, a Department of Defense-funded collaboration between NIH and the Uniformed Services University of the Health Sciences.
- Implemented new resources in the Biomedical Translational Research Information System. BTRIS currently has more than 3.5 billion rows of data.
- Activated electronic documentation in the intensive care unit. Electronic documentation in patient medical records will streamline clinical documentation, increase efficiency, and improve patient safety.

NIH Clinical Center receives 2011 Lasker~Bloomberg Public Service Award

The NIH Clinical Center received the 2011 Lasker~Bloomberg Public Service Award in ceremonies on Sept. 23 at the Albert and Mary Lasker Foundation, which has recognized outstanding advances in medical research each year since 1945, in New York City. The award honors the Clinical Center for serving as a model institution that has transformed scientific advances into innovative therapies and provided high-quality care to patients.

The award recognizes the Clinical Center's rich history of medical discovery through clinical research since it opened in 1953. Over the decades, nearly half a million volunteers have participated in clinical research at the Clinical Center. Its mission has remained providing exceptional clinical care for research volunteers, an environment for innovative bench-to-bedside clinical research, and training for clinical researchers.

“The Clinical Center, the world's largest clinical research hospital, exists to help scientists who are clinicians rapidly translate promising discoveries in the laboratory into new and better ways to treat and prevent disease,” said Dr. Francis S. Collins, NIH director. “The Clinical Center's 58-year research portfolio has resulted in remarkable medical advances.”

Those medical milestones include development of chemotherapy for cancer; the first use of an immunotoxin to treat a malignancy (hairy cell leukemia); identification of the genes that cause kidney cancer, leading to the development of six new, targeted treatments for advanced kidney cancer; the demonstration that lithium helps depression; the first gene therapy; the first treatment of AIDS (with AZT); and the development of tests to detect AIDS/HIV and hepatitis viruses in blood, which led to a safer blood supply.

“The Clinical Center's work has always depended on patients and healthy individuals from around the world who volunteer for clinical research here,” said Dr. John I. Gallin, director of the Clinical Center. “Our patients include those with rare diseases, common disorders, and undiagnosed conditions. There are about 1,500 clinical research studies under way today and the patients and healthy volunteers who participate in them are true partners in research.”

Advancements through clinical research also depend on having a cadre of investigators trained to do it, Gallin added. “Students in the health sciences and clinicians come here to learn how to conduct clinical research by working closely with NIH investigators. Since 1995, more than 22,000 students around the world have participated in the Clinical Center's clinical research training curriculum offered through distance-learning programs.”

Image: Dr. John I. Gallin, CC director (second, from left), accepted the 2011 Lasker~Bloomberg award on behalf of the CC and the NIH from (from left) Dr. Maria Freire, Lasker Foundation president; Michael Bloomberg, New York City Mayor and the award's namesake; Dr. Alfred Sommer, Lasker Foundation chair; and Dr. Harvey Fineberg, president of the Institute of Medicine and chair of the 2011 Lasker Foundation Public Service Award Committee.

The original hospital opened in 1953. A new research hospital, the 240-bed Mark O. Hatfield Clinical Research Center, opened in 2004. Most of NIH's 27 institutes and centers conduct clinical research at the Clinical Center through their programs on the NIH campus in Bethesda, Md. NIH plans to open the facility for use by external researchers, based on the 2010 recommendations from the Scientific Management Review Board, established under the NIH Reform Act of 2006, which will allow the Clinical Center to facilitate clinical research on a broader scale. On September 28, 2011, patients, staff and other members of the CC family gathered for a community celebration in the CC atrium.

Image: Patients Jerry Sachs and Mandy Young represented the CC's partners in research at the Lasker Award ceremony

Image: The award—a replica of the “Winged Victory of Samothrace,” also called “Nike of Samothrace,” sculpture created by the Greeks in 190 BC to honor the goddess of victory—was chosen by Mary Lasker because it represented in her words, “victory over disability, disease, and death.” The CC's award is on permanent display on the first floor to the east of the South elevators, across from the wall honoring the NIH Lasker awardees.

Call Out Box: For serving since its inception as a model research hospital — providing innovative therapy and high-quality patient care, treating rare and severe diseases, and producing outstanding physician-scientists whose collective work has set a standard of excellence in biomedical research. For more about the award and the Clinical Center, visit clinicalcenter.nih.gov/ccaward.html

Patient Activity and Support

HOME STATES OF ALL ACTIVE CLINICAL CENTER PATIENTS

Patients come to NIH from every corner of America seeking answers to their scientific and medical questions. Finding these answers through leading-edge clinical research is the sole mission of the NIH Clinical Center, guiding all of its activity.

Alabama: 242
Alaska: 48
Arizona: 413
Arkansas: 116
California: 1,624
Colorado: 485
Connecticut: 432
Delaware: 348
Florida: 1,704
Georgia: 725
Hawaii: 68
Idaho: 127
Illinois: 888
Indiana: 467
Iowa: 191
Kansas: 218
Kentucky: 333
Louisiana: 328
Maine: 142
Maryland: 24,970
Massachusetts: 632
Michigan: 716
Minnesota: 446
Mississippi: 167
Missouri: 429
Montana: 102
Nebraska: 161
Nevada: 128
New Hampshire: 138
New Jersey: 1,255
New Mexico: 143
New York: 2,099
North Carolina: 2,067
North Dakota: 40
Ohio: 905
Oklahoma: 261
Oregon: 274
Pennsylvania: 2,335
Rhode Island: 87
South Carolina: 475
South Dakota: SD
Tennessee: 427
Texas: 1,112
Utah: 338
Vermont: 79
Virginia: 10,822
Washington: 445
West Virginia: 498
Wisconsin: 416
Wyoming: 48

WORKFORCE DISTRIBUTION

- Nursing & patient care/support services 42%
- Administrative & operations 17.3%
- Clinical departments & imaging sciences departments 40.7%

The Clinical Center has a staff of approximately 2,000.

FY 2011 BUDGET BY MAJOR CATEGORY

384.8 MILLION

- Salaries and benefits 57%
- NIH assessments 7%
- Drugs 10%
- Contracts (labor) 7%
- Contracts (non-labor) 8%
- Equipment 3%
- Supplies 6%
- All other 2%

PATIENT ACTIVITY 2009 – 2011

Admissions

- 2009 - 6,426 - 5.3% - increase
- 2010 - 6,000 - 6.6% - decrease
- 2011 - 6,082 - 1% - increase

New patients

- 2009 - 10,315 - 9% - increase
- 2010 - 10,086 - 2.2% - decrease
- 2011 - 10,696 - 6% - increase

Inpatient Days

- 2009 - 55,664 - 8.5% - increase
- 2010 - 56,502 - 1.5% - increase
- 2011 - 56,594 - 0.2% - increase

Average length of stay (days)

- 2009 - 8.7 - 2.6% - increase
- 2010 - 9.4 - 7.6% - increase
- 2011 - 9.2 - 2% - decrease

Outpatient visits

- 2009 - 96,372 - 6.8% - increase
- 2010 - 96,664 - 0.3% - increase
- 2011 - 106,134 - 10% - increase

ONSITE CLINICAL ACTIVITY FOR 2007 – 2011

Active Protocols

- 2007 - 1,390
- 2008 - 1,449
- 2009 - 1,451
- 2010 - 1,443
- 2011 - 1,513

New Protocols

- 2007 – 166
- 2008 – 155
- 2009 – 162
- 2010 – 158
- 2011 - 207

Principal Investigators

- 2007 – 484
- 2008 – 478
- 2009 – 481
- 2010 – 474
- 2011 - 489

Caring for caregivers

The Clinical Center hosted its second annual NIH Family Caregiver Day November 8. The event recognizes critical role of family caregivers. Family members and friends who provide emotional and physical patient support are essential components of the clinical research team here. According to the National Alliance for Caregiving, about 65.7 million people living in nearly 36 million households serve as unpaid family caregivers. Caregivers often maintain home responsibilities in addition to being at the bedside of their loved one. They administer medications, drive their loved ones to and from medical appointments, and help coordinate their care.

Event guest speaker Dr. Gary Epstein-Lubow addressed “Strategic Directions for Assisting Family Caregivers in Hospital Settings.” He is assistant professor of psychiatry and human behavior at Brown University’s Warren Alpert Medical School. “Every day at the Clinical Center we have caregivers who are balancing their own needs with those of their loved one,” said Dr. Margaret Bevans, CC co-organizer of NIH Family Caregiver Day. “We need to understand their experience and help them identify what resources are out there to support them.”

Activities included an informational fair where CC staff and representatives from local and national caregiver organizations shared educational and health oriented resources, including information about maintaining physical, social, and mental health.

Bevans and event co-organizer Leslie Wehrlen said the take-home message for caregivers is that it is important to R.E.S.T. (relax, eat healthy and stay active, sleep, and take care of yourself). To reinforce that point, the day included a campus nature walk and several stress-reducing activities, including interactive sessions on mind-body techniques, seated massage, walking meditation using a guided labyrinth, and relaxation chair sessions.

To learn more about CC’s caregiver resources, visit: clinicalcenter.nih.gov/wecare.

Image: CC patients and budding professional musicians Bennett and Mina Burnside performed a set of instrumental jazz, funk, and folk to listeners in the atrium in June. The pair has already started making names for themselves within the music industry. Bennett has written songs for use in computer games and hopes to write music for movies, television shows, and radio. Mina was recently chosen to be one of nine teenage “Got Milk?” spokespersons. In addition to playing with each other, they each perform with a variety of bands and other musical groups in their hometown of Nashville. The Burnside’s have been patients at the CC for more than 13 years, and as they played their sound check their mother Jeni Burnside recalled watching them run down the halls as toddlers. “I am so happy they had the opportunity to do this,” she said.

Sibling day acknowledges important role of brothers and sisters

Image: CC art therapist Tosha Davis helped some of the super siblings make worry dolls out of fabric and yarn during July's Sibling Day celebration. "It's been very clear over the years that the pain the brother or sister experiences is pretty invisible compared to what they witness going on in the family, which is why we have created one day a year where siblings can be recognized for their role in the family," said Dr. Lori Wiener, head of the National Cancer Institute's Pediatric Psychosocial Support and Research Program and a founder of The Children's Inn at NIH. Sibling Day is a collaboration between Wiener's program, the Clinical Center Rehabilitation Medicine Department Recreation Therapy Section, and The Children's Inn.

Image: Supervisory health technologist Belinda Avila gave the Super Sibs a tour of the operating room. Sibling Day concluded with an awards ceremony at The Children's Inn where each sibling was presented with a certificate commemorating their participation and role as a "Super Sib."

TEEN RETREAT

Image: Recreation Therapy section intern Brandon Fitts (center) plays a game with Michael Ortiz (left) and Juan Carlos Guerrero Lira during June's Teen Retreat. A collaboration between the Clinical Center Rehabilitation Medicine Department Recreation Therapy Section and The Children's Inn at NIH, the Teen Retreat unites young adult patients over good times and therapeutic events. One of the highlights of the Teen Retreat is a panel of survivors of an illness or condition they suffered from while a teenager. "We have one young adult who is an amputee, and he shares his story of being diagnosed at 18. And he's now in medical school," said Recreation Therapy Section Chief Donna Gregory. "So it sends the message to these teenagers, who are wise beyond their years, that there is life after treatment."

Clinical Pastoral Education program celebrates milestones

The Clinical Center Spiritual Care Department has much to celebrate after successfully completing its 10-year accreditation review from the Association for Clinical Pastoral Education.

“We were indeed very pleased to receive notice of our continued accreditation,” said Chaplain John Pollack, chief of spiritual care. “That the continued accreditation was granted without any notations validates all of the hard work and effort that have gone into revitalizing this program.”

The accreditation allows the spiritual care Department to host Clinical Pastoral Education (CPE) interns, six of whom graduated from the program in April 2011. The multi-faith group participated in a 25-week program designed to provide participants with the opportunity to hone pastoral skills while working under supervision with patients and families facing medical challenges.

Rev. Ellen Swinford, CC chaplain and Clinical Pastoral Education program supervisor who coordinates the program, explained the benefits of working in the CC’s unique patient-care environment, “People who participate in research have been dealing with serious medical challenges that often impact their lives for years,” she said. “Many of our patients have exhausted other resources, which can raise significant spiritual questions and faith concerns. Providing spiritual care in the face of these questions is a very powerful experience, and a good way for spiritual leaders to develop competencies that they can take with them into other contexts of spiritual or pastoral ministry.”

According to Swinford, program participants grow to understand the impact of suffering on people’s spiritual lives, while building the skills necessary to work collaboratively with health-care providers to ensure that the needs of patients are addressed with respect and sensitivity. The CC is one of more than 300 centers accredited by the Association for Clinical Pastoral Education.

Image: The Spiritual Care Department’s Clinical Pastoral Education program celebrated a 10-year accreditation in 2011, along with the graduation of six program participants, including (back row from left) chaplain interns David Rose, Rick Hudock, Peter Hanke, Bruce Lugn, and (front row, from left) chaplain intern Barbara Bordelon, Rev. Ellen Swinford, and chaplain intern Cynthia Hill Dopp.

Patient family's gift supports CC staff and research

The family of a former Clinical Center patient returned to the intensive care unit in March to bestow a gift of appreciation to staff and researchers. David de Give received a stem cell transplant to treat his myelodysplastic syndrome—in which the bone marrow does not make enough healthy blood cells—at the CC in 2008. He returned home and enjoyed life for many months, said his wife Josephine (Jolly). With complications, David was admitted to the ICU in April 2009 and died that June.

“Not only did we have the best and most skilled care from the wonderful physicians and nurses, but everyone, from the top physicians to the parking attendant who stamped our parking ticket each morning, were universally friendly, warm, and caring. This atmosphere helped so much when things were going well, and it helped even more when things were not going well,” Jolly said.

She, along with many family members, visited in March to see the renovated ICU staff lounge and new fluorescence-activated cell sorting (FACS) machine bought with a generous gift from their family trust, the Friendship Fund, in cooperation and with assistance from the Foundation for NIH (FNIH).

“We really appreciate your acknowledgement of the staff and how important they are,” Dr. Henry Masur, chief of the CC Critical Care Medicine Department, told the de Give family. “We will remember your contribution every time we use the room.”

The FACS machine uses antibodies to “label” the different “flavors” of white blood cells—suppressor, effector, memory cells, for example. Monitoring the presence of different cells in the event of disease such as graft-versus-host can help develop diagnostics and treatments.”We use the machine every day,” said Dr. Austin John Barrett, principal investigator in the hematology branch of the National Heart, Lung, and Blood Institute. The visit was jointly arranged by the CC and the FNIH. Dr. Scott Campbell, FNIH executive director, added that, “FNIH frequently hears from grateful patients and their families about the care they’ve received from the ICU staff and doctors. We are honored to be part of this tribute to David and the outstanding staff of the ICU.”

Image: “Santa’s Radiation Workshop” took first place honors in the Clinical Center’s 2011 gingerbread house contest. Dr. John I. Gallin, CC director (forth from left), made the announcement. Representing the team were (from left) Arlene del Mundo, Matthew Masciocchi, Ava Stevens, Pete Guion, Theresa Cooley-Zgela, John Ondos, Kristopher Van Amburg, and Elena Lita. More than 2,400 paper votes were cast for 42 entries coming from across NIH.

Stellar Clinical Center performance

Renowned composer and conductor Marvin Hamlisch presented his seventh annual holiday concert at NIH—and his first in the Clinical Center's atrium—on December 20. He delighted the packed house of patients, families, visitors, and members of the NIH family with his talents. Joining him in the performance was tenor Gary Mauer (right), who appeared in Broadway's *The Phantom of the Opera* and *Les Miserables*.

Hamlisch is principal pops conductor for the Pittsburgh Symphony Orchestra; Milwaukee Symphony Orchestra; Dallas Symphony Orchestra; Pasadena Symphony and Pops; Seattle Symphony; and the San Diego Symphony. If an award exists in the entertainment field, he's won it—as a composer he has three Oscars, four Grammys, four Emmys, a Tony, and three Golden Globes.

Previous performances have been at the Edmond J. Safra Family Lodge. Hamlisch's friend, Mrs. Lily Safra, along with the Edmond J. Safra Philanthropic Foundation, provided the principal private funding for the Family Lodge construction. She invited him to the Family Lodge's opening celebration on May 26, 2005, and he's been returning every holiday season since.

Advancing Clinical Research

Clinical studies are medical research studies (or protocols) in which human volunteers participate. *Clinical trials* are studies developing or investigating new treatments and medications for diseases and conditions. *Natural history studies* investigate normal human biology and the development of a particular disease. *Screening studies* determine if individuals may be suitable candidates for inclusion in a particular study. *Training studies* provide an opportunity for staff physicians and other health-care professionals to follow particular types of patients.

Clinical trials phases

Phase 0: An initial first-in-human study (20-30 participants) under an exploratory IND (investigational new drug) for early identification of biologic and molecular markers in new clinical agents. There is very little agent exposure with no therapeutic or diagnostic intent.

Phase I: Researchers test a new drug or treatment for the first time in a small group of people (20–80) to evaluate its safety, determine a safe dosage range, and identify side effects.

Phase II: The study drug or treatment is given to a larger group of people (100–300) to see if it is effective and to further evaluate its safety.

Phase III: The study drug or treatment is given to large groups of people (3,000 or more) to confirm its effectiveness, monitor side effects, compare it with commonly used treatments, and collect information that will ensure safe usage.

Phase IV: These studies are done after the drug or treatment has been marketed. Researchers continue to collect information about the effect of the drug or treatment in various populations and to determine any side effects from long-term use.

PROTOCOLS BY RESEARCH TYPE

(ONSITE INTRAMURAL PROTOCOLS, FISCAL YEAR 2011)

Total active protocols: 1,513

- Clinical trials: 707 (47%)
- Training: 22 (1%)
- Screening: 71 (5%)
- Natural history: 713 (47%)

Breakdown of clinical trials

Total clinical trials: 707

- Phase I: 243 (34%)
- Phase 2: 412 (58%)
- Phase 3: 36 (5%)
- Phase 4 16 (3%)

Combined MRI/PET scanner advances study of brain injury

The Clinical Center is now home to a fully integrated whole-body simultaneous positron emission tomography (PET) and magnetic resonance imaging (MRI) device.

The new simultaneous PET/MRI will contribute to study of traumatic brain injury (TBI) and related post-traumatic stress disorder, in order to advance the treatment of servicemen and women at Walter Reed National Navy Medical Center. The purchase of the scanner was made possible through the Center for Neuroscience and Regenerative Medicine (CNRM), a Department of Defense-funded collaboration between the NIH and the Uniformed Services University of the Health Sciences.

“A major challenge in the diagnosis and treatment of both military and civilian brain injury patients is the lack of sufficient tools to evaluate the type and extent of injury in a given patient,” said Regina Armstrong, CNRM director. “The Department of Defense, through USU and CNRM, has supported development of this new tool of simultaneous PET/MRI at the CC. We expect the NIH investigators have the expertise to take maximal advantage of this technology by designing novel neuroimaging protocols and molecular probes that can significantly improve how TBI research is performed.”

Dr. David Bluemke, director of CC Radiology and Imaging Sciences, added that the device can also be advantageous for studying cardiovascular disease, other brain disorders, and cancer.

The PET/MRI system uses MRI, which has the advantage of producing greatly detailed images. Adding PET helps doctors look at the metabolism of the tissue. Tumors tend to use more sugar and are more metabolically active.

“The MRI and the PET scanner puts two very powerful imaging tools together,” said Bluemke. “The MRI shows us where the abnormalities are in the body. But the PET tells us the metabolic activity of that tumor or area in the brain that’s abnormal. So, it puts the two most powerful tools that we have for imaging together in one unit.”

The new device replaces computer tomography (CT) and may help ease the burden on patients who often have to undergo multiple testing.

“For patients I think there is going to be major change. They frequently go from one place to the other in the radiology department. They get one test and that leads to yet another test,” Bluemke explained. “And as physicians, we currently look at the tests and we often don’t have all the information. Right now, the MRI needs to be interpreted, but we do not have the added value of the PET available until the next day.”

Bluemke added that if the disease or condition can be identified early, patients have a much better chance of being treated successfully. “With an MRI/PET we’ll get all that information for the patient at the same time, and we’ll also avoid a lot of complications in bringing information from multiple modalities all together in one place, for one diagnosis,” Bluemke said.

Though the technology is brand new, it shows great promise in its innovative design that has already earned the 2011 North American Frost & Sullivan Award for New Product Innovation and the “red dot” for its high design quality in the category “Life Science and Medicine.”

“It was just released on the market, and it’s already gathered quite a bit of attention because of the technical beauty of the machine,” Bluemke said. “In addition, we are also concerned about how that benefits our patient. Here we have this opportunity with physicians from multiple disciplines all working on various research protocols trying to figure out what’s best in terms of patient care and what’s the next type of treatment.”

Radiology and Imaging Sciences technologist Rob Evers (left) talks to a patient before undergoing a scan in the recently acquired a simultaneous PET/MRI scanner.

Image: Radiology and Imaging Sciences technologist Rob Evers (left) talks to a patient before undergoing a scan in the recently acquired a simultaneous PET/MRI scanner.

New radiology viewer lets users securely access patient scans anywhere, anytime

Clinical Center Radiology and Imaging Sciences is using an innovative new system that allows users to access scans anywhere there is a high-speed Internet connection.

The new picture archive and communication system (PACS) “lite viewer” allows users to access any patient image, anywhere, anytime, said Dr. David Bluemke, Radiology and Imaging Sciences director.

A sort of mobile viewing room, the system is designed to work with any browser-enabled device, especially portable wireless devices or tablets. The system is fast, portable, and user-friendly, allowing users to take images with them to meetings, conferences, or even to the library for reference during research. Users can search for data by patient name and open and view scans without being tied down to a desktop system, enabling efficient communication between physicians, radiologists, and patients.

The system is easy to navigate and can display massive amounts of patient image data very quickly. “Image PACS systems have previously been designed for expert radiologists, but we know that patient care occurs at the bedside, in the conference room, or clinic,” said Bluemke. “We need to make NIH patient data available wherever our researchers are and whenever they need it.”

Image: With the new picture archive and communication system “lite viewer” Jacquin Jones, a research nurse coordinator in Radiology and Imaging Sciences, can take patient scans wherever there is a high-speed internet connection, even to the NIH Library for reference during research.

Radiology system facilitates collaboration and organization

The Clinical Center Radiology and Imaging Sciences research picture archive communication system (PACS) allows for increased communication and collaboration among intramural researchers while keeping data secure, organized, and protected.

While many hospitals, including the CC, use some kind of PACS system for clinical data, according to Dr. Ronald Levin, a biomedical engineer, the CC is one of the first institutions in the country to use such a system specifically to allow researchers to view and analyze multi-modality medical images.

Similar to the way that the Clinical Research Information System (CRIS) allows physicians and patient-care staff access to clinically relevant data, and the Biomedical Translational Research Information System (BTRIS) allows authorized researchers access to anonymized data—the clinical PACS system allows investigators to use scans for patient care, while the ResearchPACS stores, organizes, and allows access to radiologic scans for research.

Levin explained that though the content is similar, there is the need for different control mechanisms when it comes to research-oriented data. “In the research PACS, images are only available to the principal investigator or lab that created the data,” he said. Currently, more than 10 million images are in the NIH ResearchPACS.

Six NIH institutes and more than 80 labs currently use ResearchPACS and the system is growing daily.

“It facilitates collaboration, allows users to share data, view it simultaneously, make and share markings, and communicate more effectively,” said Levin. “We pushed the envelope in terms of data,” he said.

Nursing ‘maps the future’ in November conference

Clinical Center Nursing and Patient Care Services co-hosted the third annual International Association of Clinical Research Nurses conference: “Mapping the Future for Clinical Research Nursing,” November 16-18, 2011.

This year’s theme focused on further defining the scope of their professional specialty, said association incoming president Shaunagh Browning, nurse manager at the Georgetown-Howard Universities Center for Clinical and Translational Science. “Even the hospitals we work in don’t understand us. This is really helping organizations outside the CC to understand what a clinical research nurse does and what we bring to the clinical research process,” she said.

Dr. Clare Hastings, CC chief nursing officer, presented on career pathways for nurses in clinical research, emphasizing the variety of opportunities available and the way that the dimensions within clinical research nursing as a practice shift in different positions. “There is a full career’s potential in being a clinical research nurse, working with clinical research patients,” she said.

Dr. Barbara Turner, doctor of nursing practice program chair at the Duke University School of Nursing, delivered the conference’s keynote titled “Moving Forward as CRN Leaders and Scientists: Are We on the Right Track?” As a principal investigator, Turner explained, “I know that no work can get done without clinical research nurses.”

“One of the things that people recognize when they come to this meeting—nurses in clinical research—is that they have finally found an organization that represents them,” said Hastings.

Image: IACRN past-president Margaret McCabe (left) introduced Dr. Clare Hastings, CC chief nursing officer, who spoke about pathways for nurses at the association’s third annual conference.

BTRIS integrates new resources

Since its launch in 2009, the Biomedical Translational Research Information System (BTRIS) has grown into an extensive resource—giving clinical investigators access to identified data for the subjects on their own active protocols, while providing the intramural NIH community with access to de-identified data across all protocols.

Dr. Jim Cimino, chief of the Clinical Center Laboratory for Informatics Development, reported at the 2011 BTRIS town hall meeting that enhancements to the system will help investigators streamline the research process and assist with mandatory reporting of clinical trials to institutional review boards.

A new data visualization tool called LifeLines, created by the University of Maryland, allows users to dynamically visualize sets of patient data for easier viewing of anomalies and trends. The program itemizes data sets, such as patient records, medical problems, and medications—capturing people, events, and time. “It allows users to look at all of their patient’s data together, and sometimes a human looking at a visual representation is better than turning a computer loose to look for statistical correlations. We are good at seeing certain patterns in the data,” Cimino said.

He also explained that BTRIS can now assist investigators in reporting trial results to ClinicalTrials.gov, the registry and results database of federally and privately supported clinical trials. Investigators are required to post results within a year of final data collection, but the process for reporting can be cumbersome. Because BTRIS has enrollment data from the CC’s Clinical Research Information System, if investigators add the treatment and adverse events data, BTRIS can assist in reporting to ClinicalTrials.gov.

Another new function of BTRIS is a connection to the CC Radiology and Imaging Sciences clinical picture archive viewing system, allowing users to link to a large database of radiology images. “As we add more data, we add more reports and enhancements to the reports,” Cimino explained.

Cassie Seamon, a clinical research nurse in the National Heart, Lung, and Blood’s hematology branch has been a BTRIS user for two years. She and her team use BTRIS to build databases and identify patients who might be interested in other active clinical trials. “BTRIS streamlines data collection and management and makes it easier to find things,” she said. “We typically pull lab reports, reports for imaging, pulmonary function tests, and information about adverse events.”

In the future Cimino will upgrade BTRIS’s ClinicalTrials.gov reporting to package and automate the process. He is also working to integrate new modalities like genetic data into the system. Users have also expressed a desire for clinical research data capture and management functions within BTRIS and the ability to access data from outside research sites.

BTRIS currently has more than 3.5 billion rows of data and results from user satisfaction surveys have been positive. “The original business case said that this was going to take 10 years, but it really only took one year to get it up and running, and we are way ahead of where we were supposed to be in five years,” said Cimino.

BTRIS currently has more than 3.5 billion rows of data and results from user satisfaction surveys have been positive.

Molecular diagnostics transforms clinical microbiology

Rapidly diagnosing disease is an enormous advantage offered by the Molecular Diagnostics Service at the Clinical Center. And it all starts with a strand of DNA.

The team uses sophisticated processes and equipment to test samples of blood, fluid, or tissue. Using a method called polymerase chain reaction (PCR), they selectively amplify and replicate DNA, looking for a virus, bacteria, fungus, or other disease-causing organism.

“So if you are looking to see if someone has some kind of viral infection, you determine that there is a particular region in their DNA that is unique to just that pathogen,” explains Gary Fahle, director of the Molecular Diagnostics Service in the CC Department of Laboratory Medicine. “Then you focus on just that piece of DNA, and you amplify it billions of times in a small tube in your reaction. Once you have created so many copies of that DNA, it is then relatively easy to detect if it is there.”

The benefit to CC researchers and patients is rapid diagnosis, a complement to the many services offered by the Department of Laboratory Medicine. “Some people get very confused and think it is very complicated—PCR and amplifying DNA. It seems like something that is a very complex concept, but it’s really not. It’s really an elegantly simple thing to do,” Fahle said.

PCR is not a new scientific technique, though traditionally it is most often used in research. At the CC, PCR is used throughout the research process, from the bench to the bedside. “It has always been a research tool and what we are doing in the Clinical Center is taking that research technology and bringing it into the clinical lab,” said Fahle.

Fahle said the patient population of the CC is one aspect that makes the use of molecular diagnostics so important. CC patients tend to have more illnesses, rare diseases, and compromised immune systems. This means that the molecular diagnostics team runs a high volume of tests and also develops new tests, known as assays, for conditions that may be less common in the United States, such as malaria.

PCR also makes it possible to crack the tough cases, such as non-cultivable or slow-growing microorganisms.

Fahle said this ability was extremely valuable in one case where a patient’s lung biopsy showed visible signs of fungus on the smear, yet the tissue sample was not growing the fungus. The PCR test was able to isolate and replicate the specific DNA strand, and identify the pathogen.

Fahle said it isn’t all about the technology. The key is the staff. “There is always a new stream of people coming in with new ideas. It’s about bringing in the new technology, bringing in those new ideas, and figuring out how to adapt that into our clinical world,” he said.

Image: Jennifer Boyer, a DLM Molecular Diagnostics Service technologist.

Image: CC Department of Laboratory Medicine staff member Jeff Brocious uncaps blood samples as he prepares to enter them into a DNA extractor. The DNA is then selectively replicated to search for viruses, bacteria, or other disease-causing organisms.

2011 Bench-to-Bedside Awards

The Bench-to-Bedside (B2B) Program was launched in 1999, and 192 projects totaling about \$44 million have been funded to date. The program expanded in 2006 to include extramural collaborators with 77 grants supplemented so far. Over the past five cycles, extramural interest in the program has greatly increased; in the current 2012 application cycle, investigators from 141 extramural institutions were listed as collaborators or principal investigators on the 189 Letters of Intent.

AIDS CATEGORY: Projects funded by Office of AIDS Research (OAR)

Project: Valacyclovir for Treatment of HIV-1 Infection

Investigators Institute(s)/Institution: NICHD: L. Margolis; Case Western: M. M. Lederman

Project: Effect of CCR5 Blockade on liver disease progression in HIV patients

Investigators Institute(s)/Institution: NIAID: A. Kohli; S. Kottlilil; D. Fishbein; A. Osinusi

CC: A. F. Suffredini; University of Cincinnati: K.E. Sherman

Project: HDL Metabolism and Atherosclerosis in HIV-infected Patients

Investigators Institute(s)/Institution: NIAID: C. Hadigan; NHLBI: A. Remaley; NIDDK: A. Gharib; K. Abd-Elmoniem; George Washington University: M. Bukrinsky

Project: Liver Fibrosis in HIV-infected persons of African descent

Investigators Institute(s)/Institution: NIAID: L. Stabinski; T. Quinn; S. Reynolds; A. Redd; S. Kottlilil; A.

Klion; NCI: D. Kleiner; NIDDK: T. Heller; Johns Hopkins University: G. D. Kirk

BEHAVIORAL & SOCIAL SCIENCES CATEGORY: Project funded by Office of Behavioral & Social Sciences Research (OBSSR)

Project: Depression and Insulin Resistance in Adolescent Girls

Investigators Institute(s)/Institution: NICHD: J. Yanovski; L. B. Shomaker; NIAAA: M. Heilig; NIDDK: K.

Chen; CC: M. Kozlosky, A.B. Courville; USUHS: M. Tanofsky-Kraff; University of Minnesota: Z. M. Kukoska

WOMEN'S HEALTH CATEGORY: Project funded by Office of Research on Women's Health (ORWH)

Project: Role of Androgen and Estrogen Receptor Signaling in Pulmonary Arterial Hypertension

Investigators Institute(s)/Institution: CC: R. Danner; M. Solomon; J. Elinoff; NIDDK: A. M. Gharib; K. Abd-

Elmoniem; University of Pennsylvania: J. E. Rame; K. B. Margulies; P. Forfia

MINORITY HEALTH CATEGORY: Projects co-funded by the National Institute on Minority Health & Health Disparities (NIMHD) and ICs

Project: Reverse cholesterol transport in humans with Mendelian low HDL disorders

Investigators Institute(s)/Institution: NHLBI: A. Remaley; University of Pennsylvania: M. Cuchel

Project: Fat Metabolism and Function-Altering Polymorphisms in MC3R

Investigators Institute(s)/Institution: NICHD: J. Yanovski; H. Westphal; D. C. Adler-Wailes

NIDDK: A. Ali; O. Gavrilova; K. Chen; CC: J. C. Reynolds; D. M. Dellavalle; Mayo Clinic, Rochester, MN: M.

D. Jensen

GENERAL CATEGORY: Projects co-funded by National Center for Research Resources (NCRR) and ICs

Project: Near Infra-Red Functional Imaging in Autistic Spectrum Disorder Patients

Investigators Institute(s)/Institution: NICHD: A. Gandjbakhche; J. D. R. Riley; L. Najafizadeh

NIMH: S. Swedo; A. Thurm; M. Gozzi

Project: Imaging bacterial infection in immunocompromised patients

Investigators Institute(s)/Institution: CC: D. Hammoud; NIDDK: A. M. Gharib; K. Abd-Elmoniem

NIAID: A. Freeman; S. Holland; Johns Hopkins Medical Institutions: M. G. Pomper; C. Endres; S. Cho

RARE DISEASES CATEGORY: Projects co-funded by Office of Rare Diseases Research (ORDR) and ICs

Project: Development of antigen specific biomarkers for autoimmune uveitic disease

Investigators Institute(s)/Institution: NEI: R. Caspi; M. Mattapallil; R. B. Nussenblatt; N. Sen
Benaroya Research Institute at VA: G. T. Nepom; B. W. Kwok; E. James

Project: Mitochondria, Telomeres, and Lifestyle in Li-Fraumeni Syndrome Outcomes

Investigators Institute(s)/Institution: NCI: S. A. Savage; I. Wentzensen; P. Mai; M. Greene; R. Sinha; J. Fraumeni; NHLBI: P. M. Hwang; Hospital A. C. Camargo - Fundação Antonio Prudente: M. A. Achatz; International Agency for Research on Cancer: P. Hainaut; The Hospital for Sick Children: D. Malkin

Project: Cyclodextrin therapy for Niemann-Pick C1 disease

Investigators Institute(s)/Institution: Washington University: D. Ory; NHGRI: J. J. Marugan; NICHD: F. D. Porter; Albert Einstein College of Medicine: S. U. Walkley

Project: Amitriptyline for the Treatment of BDNF Haploinsufficiency

Investigators Institute(s)/Institution: NICHD: J. Han; NIA: B. Martin; S. Maudsley; W. Chadwick
NIMH: S. Swedo; A. Thurm; C. Golden Williams; Medical University of South Carolina: L. M. Luttrell

Project: Exacerbation of HIF2alpha-dependent polycythemia by iron deficiency

Investigators Institute(s)/Institution: NICHD: T. Rouault; NHLBI: G. J. Kato; NCI: W. M. Linehan; J. Mitchel; Howard University Medical Center: V. Gordeuk

Project: Biomarkers of neurodevelopment in Smith-Lemli-Opitz Syndrome

Investigators Institute(s)/Institution: NICHD: F. D. Porter; A. Yergey; NHLBI: A. Remaley
NIMH: J. Geidd; CC: E. Baker; Kennedy Krieger Institute/Johns Hopkins University: E. Tierney; S. Mori; R. W. Lee

Nutrition event highlights registered dietitians' roles in clinical research

Future and current dietitians learned about the role of their profession in clinical research at the annual NIH Nutrition Research Day on March 17, 2011. The Clinical Center Nutrition Department has hosted this event for more than 10 years.

Event attendees included graduate students, dietetic interns, registered dietitians, and junior faculty participating in the week-long National Cancer Institute/CC Nutrition and Cancer Prevention Research Practicum, as well as additional dietetic interns from the Washington, DC, metro area.

The day was coordinated by Merel Kozlosky, dietetic internship director, who expressed how rewarding it is to share the work of NIH dietitians with the outside professional community.

“It’s really exciting to learn about current research,” said Genevieve Clarke, who is a dietetic intern at Virginia Tech and is interested in renal patients and sports nutrition.

NIH Nutrition Research Day attendees heard from Dr. Amber Courville, a CC metabolic research dietitian, who explained the clinical research process and how the Nutrition Department supports and conducts studies. She broke down the average distribution of clinical research dietitians’ time: 45 percent patient care, 23 percent hospital support, and 32 percent research services and support. Approximately 100 protocols at the CC require nutrition research services—such as research diets, body composition measurements, eating behavior assessments, and nutrition counseling—Courville said.

Throughout the day Courville and fellow dietitians Rachael Lopez, Jennifer Graf, and Diane DellaValle presented protocols they work on and their contributions to those studies. Dr. Amy Subar, an NCI nutritionist, spoke on “New Methods of Dietary Assessment.” Both groups of attendees took a tour of the Clinical Center, including the metabolic clinical research unit, and practicum participants also heard from CC dietitian Marine Dobbin on “Botanical and ‘Other’ Dietary Supplements.”

Another valuable presentation came from dietitians across NIH who charted their career paths for the younger generation. Dr. Abby Ershow of the National Heart, Lung, and Blood Institute empowered the audience, “Dietitians, in this age of dietary guidelines, in helping people to take all this information and make it real, you all have a crucial role in improving human health.”

“...you have a crucial role in improving human health.”

Image: Dr. Amber Courville (right) led a tour of the metabolic clinical research unit for area dietetic interns.

RESEARCH | SPOTLIGHTS

Study challenges standards for pulmonary hypertension

A study at the Clinical Center led by Dr. Leighton Chan, chief of the Rehabilitation Medicine Department, is challenging the way that physicians perceive and treat patients with a rare disease called pulmonary hypertension.

Pulmonary hypertension occurs when elevated blood pressure in the arteries of the lungs causes the right side of the heart to work harder than normal. Chan explained that scientists often aren't sure what causes the disorder, but for many years treatment options often included medications and lifestyle changes that limited rigorous exercise.

“The concern was that increasing heart rate and stress elevates pressure in the lungs, which might increase heart failure. Therefore, exercise might put people at more risk,” said Chan. His team has challenged that notion and produced interesting research findings that suggest people with pulmonary hypertension may actually benefit from an intensive exercise program.

The trial, which is conducted in collaboration with Inova Fairfax Hospital and George Mason University, randomized patients to either 10 weeks of an education-only program or 10 weeks of education combined with an exercise program.

The study's exercise program involved 25-30 minutes of treadmill training at 70-80 percent heart-rate reserve and found that those who received the combination of exercise and education made greater improvements.

“Individuals who got the exercise increased the amount they could walk in six minutes by 60 meters, which is almost double what we would consider an important finding,” said Chan. The study also found that patients in the exercise and education program could exercise longer before going into anaerobic metabolism and that almost all quality-of-life measures improved. Little change was reported in the education group.

While diagnostic tests and examinations are conducted at the CC, the collaboration with Inova Fairfax allows for patients south of the DC Metro area to easily participate in the education and exercise components of the study.

Although CC patient and northern Virginia resident Anne Lewis remembers thinking that she “will never be able to do this,” since participating in the study, she is a different person.

“Before I started at NIH I couldn't walk down the hall in my office without stopping to catch my breath,” she said. Lewis not only lost weight but also found confidence in both her ability to exercise and control her disease using the tools and skills she learned in the educational component of the study.

She has continued the regimen and exercise habits established by Chan's team, walking for 45 minutes, three days a week at a local gym. “At first I thought I was going to die of this disease,” she said, “but now I know I can live a life of quality. But I have to take some responsibility for my own improvement, and I had the support and encouragement to do that at the NIH.”

Chan and his team earned the 2011 Alfred Soffer Research Award in the category of outstanding original research from the American College of Chest Physicians for their work on this study.

Image: Dr. Leighton Chan (right), chief of the CC Rehabilitation Medicine Department, is investigating the standards for patients with pulmonary hypertension with team members (from left), Dr. Joshua Woolstenhulme, Michelle Kenney, Dr. Randall Keyser, and Dr. Lisa Chin.

Study addresses early indicator of heart disease

A team led by Dr. David Bluemke, Clinical Center Radiology and Imaging Sciences director, has found evidence supporting the role of fat around the heart in promoting atherosclerosis, a condition in which fatty material collects along the walls of arteries. The journal *Radiology* published the study results in August 2011.

The Multi-Ethnic Study of Atherosclerosis (MESA) suggests that the amount of pericardial fat present is more strongly related to coronary artery plaque than other measurements like body mass index or waist circumference. When plaque forms in the arteries, it deposits in an irregular manner, causing thickening of the artery wall on one side, but not the other. The ratio of the thick side to the thin side is referred to as plaque eccentricity and is a strong indicator of heart disease.

According to the American Heart Association, heart disease is the leading cause of death in the United States. In 2010, an estimated 785,000 Americans had a new heart attack—and about 470,000 had a recurrent attack. While previous studies have looked at the relationship of pericardial fat to atherosclerosis in patients with severe coronary disease, this is the first study to determine the association of pericardial fat on coronary artery plaque burden in asymptomatic individuals.

“The individuals in this study had no symptoms and were otherwise healthy,” said Bluemke. “They did not have significant coronary artery narrowing. Yet, despite this, they had coronary plaque that could be detected by MRI.”

The researchers used magnetic resonance imaging (MRI) to measure the ratio of maximal to minimal artery wall thickness as a measure of early-stage atherosclerosis and computed tomography (CT) to determine pericardial fat volume. MRI allowed for a noninvasive assessment of coronary plaque burden on the patients enrolled in the study.

“The findings indicate yet another reason that obesity is bad for us,” said Bluemke. “It is particularly bad when the fat forms around the heart, since heart fat appears to further promote coronary artery plaque.”

Researchers from The Johns Hopkins University School of Medicine and Bloomberg School of Public Health, Wake Forest School of Medicine, Northwestern University Feinberg School of Medicine, University of California Los Angeles, and University of Washington also contributed to the paper, titled “The Association of Pericardial Fat with Coronary Artery Plaque Index at MR Imaging: The Multi-Ethnic Study of Atherosclerosis (MESA).”

NIH program diagnoses CC patients with new disease

Presentation of patients seen at the Clinical Center in the NIH Undiagnosed Diseases Program (UDP) has led researchers to describe a new rare and debilitating disorder of the blood vessels and its genetic cause.

The adult-onset condition is associated with progressive and painful calcium build-up in arteries below the waist and in the joints of patient’s hands and feet. Researchers refer to the condition as ACDC, or arterial calcification due deficiency of CD73. Although symptoms of the disorder include leg and joint discomfort, medical evaluations of the patients ruled out rheumatoid arthritis or other joint-related problems. Genetic analyses performed by NIH researchers suggested a novel disorder and pinpointed the cause of the condition as mutations, or variants, in the NT5E gene. Such a finding could have implications for treatment of ACDC as well as for the understanding and the development of therapies for more common diseases.

“I’m excited by the fact that they might find something to help us or to help someone else,” said Paula Allen, one of the ACDC patients in the UDP. She and her sister, Louise Bengel, The UDP program, launched in May 2008, is an initiative jointly led by the National Human Genome Research Institute, the CC, and the NIH Office of Rare Diseases Research. The program receives referrals from around the country when cases challenge the medical community at large. Patients visit the CC for extensive medical diagnostic testing and evaluation.

“When we first announced the Undiagnosed Diseases Program, we had two goals: to provide hope for patients whose diseases had eluded diagnosis and to conduct fundamental medical research on the causes of diseases,” said Dr. William Gahl, UDP director. “From the start, we expected that this pursuit might lead to the discovery of new diseases and of variations of known diseases.”

Researchers saw members of two families with ACDC, and identified a third case outside the country. Seven medical cases like those described in this study have been reported in medical journals over the past century, but these previous studies did not include any insights about the molecular basis of the disorder.

The patients seen at the CC experienced pain and cramping in the calves, thighs, buttocks, and feet due to poor circulation. MRIs and X-rays showed calcium deposits in artery walls.

In the case of Allen and Benge, two of five affected siblings, clinical researchers suspected a recessive inheritance, in which offspring receive two copies of a gene variant — one from each parent — that produces disease symptoms only when combined. The researchers analyzed DNA from all members of the family and found regions where the siblings' DNA contained two copies of a particular DNA segment compared to their parents' DNA, which contained just a single copy.

The comparison revealed one such region, which the researchers then analyzed for variants not present in a population of 200 unaffected people. The siblings all had the same variant in a gene called NT5E. This gene normally makes the extracellular protein CD73, which produces a small molecule, adenosine, which protects the arteries from calcifying. The researchers also detected variants in NT5E in all the other affected patients in the study.

Study evaluates reported versus actual food intake

A recent study conducted at the Clinical Center and published in the journal *Eating Behaviors* by a team from the NIH and the Uniformed Services University of Health Sciences cited marked differences in reported versus actual food intake in youth with an eating behavior called loss-of-control eating.

“Loss-of-control eating is when someone feels like they don't have control over what or how much they are eating. Some describe it as ‘numbing out’ for a while and just eating without feeling a lot of control,” said Merel Kozlosky, supervisory metabolic dietitian and director of the CC Nutrition Department's dietetic internship program, who served as the dietitian on this research study.

Although it is difficult to measure, loss-of-control eating affects between two and 10 percent of children and adolescents, and is associated with higher body fat, higher likelihood of being overweight, and more weight gained. “We know that a lot of pediatric obesity ends up resulting in adult obesity, and loss-of-control eating might be one characteristic in children and adolescents that leads to more weight gain over time,” said Kozlosky.

The study identified children who had loss-of-control eating through a questionnaire and interviews administered by psychologists and other trained interviewers. The team then assessed the children's food intake from a buffet that offered 28 lunchtime foods that would appeal to children. The food was prepared in the CC Nutrition Department's metabolic kitchen, and was weighed both before and after each child had the opportunity to eat. This allowed researchers to precisely calculate how much each child ate compared to what they reported eating after the meal.

Study findings report that children who reported loss-of-control were less accurate in their ability to report dessert and carbohydrate intake. “Desserts and carbohydrate-laden foods are often the types of foods we think of as comfort foods, so one interesting thought from this study is whether the loss-of-control eating is related to eating more comfort type foods to soothe or to make negative emotions go away,” Kozlosky said. “Also, those are the types of foods that could more easily lead to weight gain.”

The study also found that children with higher percentage of body fat were more likely to under-report intake. Kozlosky said that this could potentially give the team clues as to why some children are overweight and why they continue to gain weight.

The research team was led by Dr. Jack Yanovski of the National Institute of Child Health and Human Development and included collaborators from the NICHD, the USUHS, and the National Institute of Diabetes and Digestive and Kidney Diseases.

Image: A knee X-ray of a CC patient with ACDC reveals calcification in the main artery supplying blood to the lower leg. Such an abnormal occurrence causes pain and restricts mobility.

Surrogates confront tough decisions

Making medical decisions for an incapacitated loved one has negative effects on approximately one-third of surrogates, finds a new study published by Clinical Center Bioethics Department researchers.

Dr. David Wendler, chief of the Unit of Vulnerable Populations, and former post-doctoral research fellow Dr. Annette Rid authored “Systematic Review: The Effect on Surrogates of Making Treatment Decisions for Others” that ran in late February in *Annals of Internal Medicine*. They reviewed 40 studies that provided data from 2,854 surrogates, of whom more than half were family members of the patient.

“Since incapacity often occurs as a result of serious conditions, surrogates’ decisions often involve important choices, especially at the end of life,” Wendler said. “Placement in nursing or long-term care facilities is another decision they make.”

Negative effects—such as stress, guilt, and doubt about the decisions they had made—stayed with study responders for months, and sometimes years, the article said.

“Nine of the 40 studies also reported beneficial effects on a few surrogates, the most common of which were supporting the patient and feeling a sense of satisfaction,” the authors wrote.

Subjects frequently said knowing how the patient would have wanted to proceed alleviated some of the negative effects for patient surrogates.

“Knowing the patient’s wishes often transforms the situation from one in which surrogates feel that they are making life and death decisions for the patient to one in which they feel that they are merely communicating the patient’s wishes or standing up for the patient,” said Wendler.

Training the Next Generation

Quest to excellence through high quality training

The Clinical Center continues to provide superior clinical research training to individuals of varying education levels and professional backgrounds. Through the training opportunities administered and managed by the Office of Clinical Research Training and Medical Education, high school students, medical and dental students, and experienced researchers and health professionals have the opportunity to participate in programs and courses that provide exceptional professional growth experiences. As the country's largest hospital dedicated to clinical research, the Clinical Center's available resources provide unique educational opportunities for both current and future clinician-scientists.

Broadcasting remotely: domestic and abroad

Three of the Clinical Center's key training courses offered at remote sites have maintained high participation numbers. *Introduction to the Principles and Practice of Clinical Research (IPPCR)*, *Principles of Clinical Pharmacology (PCP)*, and *Ethical and Regulatory Aspects of Clinical Research* are offered domestically and internationally. Content for these courses is made available using live videocasting via the internet and archived content on the web. The Clinical Center's ability to offer courses remotely continues to strengthen collaborative relationships between the Clinical Center and the external community.

In 2011, approximately 1,330 students participated in the IPPCR course. The course was offered at 17 domestic and 10 international remote sites. The Noguchi Memorial Institute for Medical Research at the University of Ghana in Ghana, West Africa; Centro Medico Imbanaco de Cali in Cali, Colombia; Instituto Nacional de Enfermedades Neoplasicas in Lima, Peru; and JSS College of Pharmacy in Mysore, Karnataka, India, are a few of the new international locations receiving the IPPCR course videocast in 2011.

Enrollment for *Principles of Pharmacology*, now in its 13th year, continued to excel with 905 participants for the 2011-2012 course, which was offered at 26 remote sites, including seven international locations. More than 345 students enrolled for *Ethical and Regulatory Aspects of Clinical Research* at its 10 domestic and five international remote sites.

Visibility of graduate medical education expands with first Resident Research Career Day

In 2011, the Clinical Center continued to expand the visibility of graduate medical education (GME) training programs and research career development opportunities at the NIH by hosting its first Resident Research Career Day. This event targeted second year residents training in internal medicine, pediatrics, and neurology residency programs at regional academic medical centers in the Northeast and Mid-Atlantic areas who plan to pursue subspecialty training or careers in academic medicine. The event attracted an enthusiastic cadre of 15 attendees and included poster presentations highlighting the research accomplishments of six current NIH clinical fellows. Residents learned about unique opportunities offered by the NIH, including the ability to work alongside other dedicated researchers. Dr. Daniel Kastner, scientific director at the National Human Genome Research Institute, offered a keynote speech on his work in genomics and auto-inflammatory diseases.

The Clinical Center, as the Accreditation Council for Graduate Medical Education (ACGME) accredited sponsor of graduate medical education at NIH, also implemented a program to develop the clinical skills of current trainees in the ACGME core competencies of professionalism, interpersonal and communication skills, and systems-based practice. This program featured small-group interactive seminars and workshops addressing issues of importance to the mission of the NIH Clinical Center, including effective communication with patients and colleagues; management of workplace conflict; elements of a successful informed consent; cross cultural medicine; and coping with dying and death.

Image: Dr. Janice Hobbs, chief resident in pediatrics at St. Christopher's Hospital for Children in Philadelphia, discusses a poster with an NIH fellow during Resident Research Career Day October 2011.

A new addition to the training curriculum

The new Medical Research Scholars Program (MSRP) for medical and dental students began accepting applications in October 2011 and will welcome its inaugural class in September 2012. Basic, clinical, and translational research will be options in the Medical Research Scholars Program. The MRSP builds upon the long history that the NIH intramural program has had in preparing clinician-scientists for leadership roles in biomedical research and incorporates the Howard Hughes Medical Institute (HHMI)-NIH Research Scholars Program and the NIH Clinical Research Training Program (CRTP). The HHMI-NIH Research Scholars Program had historically focused on research in the basic sciences, while CRTP participants primarily engaged in clinical and translational research.

The new program will offer research experiences with intramural investigators from across NIH in basic science laboratories as well as in clinical and translational research projects conducted in the Clinical Center.

“Medical discoveries of tomorrow depend on the students we train today,” said NIH Director Dr. Francis S. Collins. “This program will help ensure that there is a steady pipeline of scientists conducting the full range of biomedical research. The program will offer a broad range of exceptional research opportunities, exposure to cutting edge technology, and critical policy issues for promising students.”

Students selected for the program will receive a stipend and resources for education enrichment, such as travel to scientific meetings, textbooks, and tuition for courses. There will be a curriculum in clinical protocol development and the conduct of human subjects research, along with seminars focusing on basic and laboratory studies and their translation into clinical protocols as well as the development of leadership skills.

The program is supported by a partnership with the Foundation for the National Institutes of Health via a grant from Pfizer Inc and contributions from the Howard Hughes Medical Institute. Approximately 40 students are expected to be admitted to the program for the initial year. The goal is to accept up to 70 students as the program grows.

“Pfizer has a long tradition of supporting medical education and is proud to support the NIH Clinical Center, one of the most important teaching and research hospitals in the world,” said Dr. Freda Lewis-Hall, executive vice president and chief medical officer of Pfizer Inc. “Those who benefit from the Medical Research Scholars Program will gain special insight into many conditions where further research and greater medical understanding are urgently needed.”

“HHMI is pleased to have an ongoing role in this important NIH initiative,” said Dr. Robert Tjian, president of the Institute. “Our support will enable NIH to continue a long-running seminar series that brings these clinician-scientists into contact with leading researchers from around the nation. These opportunities—coupled with the experience of working in an NIH lab—can inspire a lifelong commitment to research.”

Image: The new program will be carried out under the CC Office of Clinical Research Training and Medical Education. Dr. Frederick P. Ognibene is director.

Image: nutrition department dietitians helped honor the 19th class of dietetic intern graduates in July, including (from left) Capt. Madeline Michael, chief of clinical nutrition services; internship graduates Valerie Darcey, Emily Cook, Katrina Butner, and Emily Brown; LCDR Merel Kozlosky, dietetic internship program director; and Dr. Kirsten Zambell, clinical research dietitian.

Ninth annual CIST Forum engages and inspires future clinical researchers

Nearly 300 students representing the next generation of clinician-scientists met at the NIH October 20 and 21, 2011, for the ninth annual Clinical Investigator Student Trainee (CIST) Forum hosted by Office of Clinical Research Training and Medical Education (OCRTME).

The two-day forum offered a variety of scientific lectures, career panels, and peer-to-peer interactions for medical, dental, and veterinary students in year-out enrichment programs at the NIH and academic medical centers across the country. The forum format and design has been refined over the years to effectively answer students' questions and to provide the best advice, according to Dr. Frederick P. Ognibene, Clinical Center deputy director for educational affairs and strategic partnerships and OCRTME director.

"How do I select a residency? How do I pay off my debt? Do I pick an institution based on clinical experience or research experience, or both?" said Ognibene in describing the common questions attendees often ask. "We've put together a really great program. It's a diverse group of wonderfully trained individuals, reflecting both the rich environment we have at the NIH but those from the outside as well."

Dr. Anthony S. Fauci (second, from right), National Institute of Allergy and Infectious Diseases director, connected with CIST forum participants after delivering the forum's keynote. He encouraged students to take risks, connect with mentors, and foster collaborative relationships.

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Image: Dr. Francis S. Collins, NIH director, encouraged forum participants to take advantage of both scientific and networking opportunities at the ninth annual CIST Forum.

NHLBI researcher named 2011 Distinguished Clinical Teacher

The 2011 Distinguished Clinical Teacher Award went to Dr. Cynthia Dunbar, head of National Heart, Lung, and Blood Institute's Molecular Hematopoiesis Section, at a ceremony on September 14, 2011.

"Her excitement and enthusiasm for patient care and learning are truly infectious – and marries well to empathy and kindness – providing an excellent role model as scientist, clinician, and healer," one fellow wrote in Dunbar's nomination.

Dunbar received her medical degree in 1984 from Harvard Medical School. She completed an internship and residency in internal medicine at Boston City Hospital and a hematology fellowship at the University of California, San Francisco. She came to the NIH as a postdoctoral fellow in 1987 and she is currently the editor-in-chief of the journal *Blood*.

The Distinguished Clinical Teacher Award has been presented annually since 1985 to an NIH faculty member who demonstrates excellence in mentoring health-care professionals and outstanding contributions to the advancement of clinical research. The recipient is chosen by the Clinical Center Clinical Fellow's Committee and delivers the annual John Laws Decker Memorial Lecture the following spring.

"Mentors have always played a crucial role in the professional life of physicians, and outstanding clinical mentors have been a key component of the Clinical Center's success for over 50 years," said Dr. John I. Gallin, CC director, in his introduction.

Recent winners include Dr. Jeffrey Baron, chief of the section on growth and development at the National Institute for Child Health and Human Development (2010); Dr. Tara Palmore, CC deputy hospital epidemiologist (2009); and Dr. Richard Childs, senior clinical investigator in NHLBI's hematology branch (2008).

Image: Co-chairs of the Distinguished Clinical Teacher Award subcommittee Dr. José Franco-Chaves and Dr. Bamidele Adesunloye (right) presented the 2011 Distinguished Clinical Teacher Award to Dr. Cynthia Dunbar.

Summer medical and dental training program students visit CC

A group of undergraduate students enrolled in the Robert Wood Johnson Foundation Summer Medical and Dental Education Program at Howard University visited the Clinical Center in June 2011. This program is designed to strengthen the overall academic preparation of underrepresented minority, disadvantaged, and low-income students who are interested in pursuing medical or dental school later in their careers.

The group heard a presentation about the NIH and available training opportunities from the CC Office of Clinical Research Training and Medical Education. Students also toured key CC research facilities, including the National Heart, Lung, and Blood Institute's Vascular Biology Branch. Dr. Gregory Kato head of the Sickle Cell Vascular Disease Unit in the NHLBI, presented.

International Presentations

Clinical Research Training Opportunities Reach Beyond NIH Borders

The Clinical Center's *Introduction to the Principles and Practice of Clinical Research* course was offered in Russia for the first time in November 2011. Dr. John I. Gallin, CC director, lead the course at the Kulakov Federal Research Center for Obstetrics, Gynecology, and Perinatology in Moscow.

The course was offered to approximately 220 students as part of the Clinical Center's global efforts in clinical research training. The course contained lectures on clinical trial best practices, biostatistics and data analysis, orphan and rare diseases, ethics in clinical research, review boards and integrity in research, data safety monitoring, and treatments for addiction and tuberculosis. The attendees represented multiple medical specialties and came from a number of institutions around Russia. A translation into Russian of the second edition of *Principles and Practice of Clinical Research* textbook, along with Russian translation of the slides and other lecture materials ensured an easy conveyance of the principles. In addition and similar to how the course is taught at the NIH Clinical Center, the course in Moscow was broadcast via the internet and was also videotaped and archived. Eighty-four percent of the course attendees who took a final examination successfully passed and received a certificate documenting that achievement. This pass rate was comparable to individuals who participate in the nearly five-month course taught annually in the Clinical Center.

The course was supported by a generous donation to the Foundation for the NIH from Eli Lilly.

Image: Pictured are several course faculty near the red square in Moscow (from left) Dr. Clifton Barry, chief of the NIAID tuberculosis research section; CC Director Dr. John I. Gallin; Dr. Laura Lee Johnson, a statistician in the NCCAM Office of Clinical and Regulatory Affairs; and Dr. Jerry A. Menikoff, director of the Department of Health and Human Services Office for Human Research Protections. Not pictured are Dr. David Eckstein, a senior health scientist administrator in the NIH Office of Rare Disease Research and Dr. Markus Heilig, NIAAA clinical director.

Sino-American symposium focuses on translational research

Dr. John I. Gallin, Clinical Center director, and Dr. Shengli Yang, a member the Chinese Academy of Engineering's governing board, co-chaired the 2nd Sino-American Symposium on Clinical and Translational Medicine in Shanghai, China, in June 2011.

Gallin noted that the goal of the assembly was to offer scientific leaders from the United States and from China opportunities to discuss how to stimulate translational science and sustain a robust clinical research program.

“In China, there is acute awareness of the importance of translational research,” said Gallin, “from bench to bedside and back to the bench. Improving health for everyone in China is an important national agenda there. Medical and scientific leaders understand that exploring opportunities for innovations in the conduct of clinical research can help fulfill that agenda.”

Dr. Zhu Chen, China's minister of health, delivered the keynote address. Organizers for the event were the CC, the Chinese Academy of Engineering, the Chinese Academy of Medical Sciences, and GlobalMD. Conference proceedings were published as a supplement in *Science*, “Selected Presentation from the 2011 Sino-American Symposium on Clinical and Translational Medicine.”

In the last two years, the CC has introduced to China two courses from the NIH intramural clinical research curriculum, *Principles and Practice of Clinical Research* and *Clinical Pharmacology*. The NIH faculty have made four teaching visits to China and have provided training to 3,000 physicians and nurses in more than 500 hospitals and research institutes in China using both live courses and long-distance learning tools.

Two of the courses' textbooks have been translated into Chinese, and the Chinese are now beginning to teach the courses on their own. An outcome of these training efforts was the 1st Sino-American Clinical Research Summit, held June 16-18, 2010, which Gallin co-chaired with Dr. Depei Liu, president of the Chinese Academy of Medical Sciences.

Image: Dr. Clare Hastings, CC chief nursing officer; Dr. Cheryl Fisher, program director of professional development; and Dr. Gwenyth Wallen, chief of nursing research and translational science, taught a two-day course on evidence-based practice to 104 nurses in Beijing, China, and to more than 300 participants at the Fourth Xian Military Medical University in Xi'an, China. The April 2010 presentations were part of a partnership to take clinical research training abroad.

Organizational Improvement and Teamwork

NIH and Project SEARCH celebrate successful pilot with intern graduation

Interns, family members, mentors, staff, and administrative partners gathered to celebrate the graduation of 12 important Clinical Center community members in June 2011.

The graduation honored the success of the NIH-Project SEARCH interns who completed a 30-week unpaid internship in various departments throughout the CC. The internship was offered in collaboration with Project SEARCH, an international organization that works with hospitals and businesses to provide employment opportunities and experience for young adults with disabilities; the Ivymount School's Post High School Program, a community-focused life skills program that prepares students ages 18-21 for a successful transition from school to employment and adult life; and SEEC, a local nonprofit that provides community-based employment support to transitioning youth and adults.

During the 30-week pilot, Ivymount and SEEC's on-site staff members provided personalized vocational support for the interns and were instrumental in dealing with challenges and creating a positive environment.

"I can't tell the graduates and their families how privileged we feel that we have been able to get to know these graduates on a personal basis and to really see the work that you've all accomplished," said CC Director Dr. John I. Gallin at the ceremony. "It has really enriched the Clinical Center. It's made the Clinical Center a better place, operationally and as a community."

This is the first Project SEARCH internship program for CC. It launched last year as a pilot under the management of Denise Ford, chief of Hospitality Services, and as part of the CC Volunteer Program. Ford said the program isn't about just getting interns jobs; it is about starting their careers.

"They came to us with a yearning for independence, for the opportunity to work and to work hard ... With all of our partners, we put together this opportunity for the interns to succeed in this transitional school-to-workplace training," Ford said. "We put the opportunity out there, but they stepped up and seized the opportunity. That is what made this successful."

New graduate Ricky Day, who worked in Hospitality Services, said his internship was challenging yet rewarding. "We really earned it every day," he said.

Rebecca VanGilder, the interns' instructor, explained that the NIH-Project SEARCH team tried to challenge and encourage the young adults by placing shy, reserved interns in social or verbal roles to teach communication skills and by placing outgoing individuals in calm environments to teach professional discipline and appropriate workplace behaviors.

"There are not enough words to describe the immense growth that each intern experienced because they were treated as any other employee here at the Clinical Center," she said. VanGilder saw both the interns and the CC community grow throughout the program's term. "I think we all see that much more than any disability, these young adults have unique abilities that exceed what someone else could do or provide," she said.

Eight of the new graduates will go on to fill permanent positions within the CC. All will take away career skills, though, such as how to use public transportation and how to use aids like an alarm to remember appointments.

Chauncey Buford, a supervisor in the Housekeeping and Fabric Care Department, worked with intern Chane Wade-Goodwin for the entire 30-week internship and was excited for the opportunity to help Chane build skills of all kinds. “Since the beginning of the program I think Chane is more positive. He went from being unsure to sure. He built confidence and started talking about his ambitions.”

According to Steve Blanks, director of vocational and day supports at SEEC and part of the NIH-Project SEARCH team, similar initiatives in other organizations do not have such a high success rate. “For eight out of 12 students to be hired, that is an unbelievable success,” he said. “These guys have learned new skills, met new friends, and learned things that they will carry with them for the rest of their lives.”

Ford said she hopes to continue the program next year and expand it to other NIH institutes and centers, embracing the president’s goal of increasing the employment rate of workers with disabilities.

Ford added, “They have opened people’s minds to look beyond the wheelchair— past the appearance of the physical disability— to see that bright

young person who can contribute in an extremely meaningful way to the mission of the NIH.”

The interns were: Crystal Battle, Ashton Bell, Van Berg, Ricky Day, Scott Gladstone, Justin Haynes, Aamer Khan, Alex Lightfoot, Adam Russell, Lindsey Schaufelberger, Amethyst Thornton, and Chane Wade-Goodwin.

In August 2011, the Clinical Center was chosen as the 2011 Employer of the Year by Maryland Works, Inc., for its pilot NIH-Project SEARCH program. The interns were honored with NIH Directors Awards. Dr. Zhu Chen, China’s minister of health, delivered the keynote address. Organizers for the event were the CC, the Chinese Academy of Engineering, the Chinese Academy of Medical Sciences, and GlobalMD. Conference proceedings were published as a supplement in *Science*, “Selected Presentation from the 2011 Sino-American Symposium on Clinical and Translational Medicine.”

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Image: Project SEARCH interns and their mentors marked the interns’ graduation and successful completion of the program in June. The group included (from left) Adam Russell; Donna Scott-Harper, Pharmacy Department technician; Amethyst Thornton; Aamer Khan; and Jim Schlick, Pharmacy Department Inpatient Section chief.

Image: Maureen Gormley, CC chief operating officer, and Dr. John I. Gallin, CC director, congratulated the Project SEARCH interns, including Ricky Day.

Image: The 1SE patio was filled with cheers of congratulations from families, coworkers, and friends for the 12 NIH-Project SEARCH interns who graduated on June 10 after 30 weeks spent in various CC departments.

ICU transitions to electronic documentation

The 3SW intensive care unit (ICU) began a transition to electronic documentation of patient medical records to streamline clinical documentation, increase efficiency, and improve patient safety. The electronic documentation system replaced a hard copy paper flow sheet that has been used in the ICU for decades, said Dr. David Henderson, Clinical Center deputy director for clinical care.

Henderson reported that one of the main goals of this transition is to increase the quality, efficiency, and safety of patient care. “The clinical data viewer in the ICU populates information automatically, eliminating the potential for human error,” he said.

The new system will be accessible through the Clinical Research Information System (CRIS) and will mimic the format of the flow charts while streamlining the documentation in a single location. This new patient-care technology records and calculates virtually every electronic observation made of a patient’s condition and vital signs, so that ICU staff do not need to record or calculate the information manually.

Ryan Kennedy, an information technology project manager for the Department of Clinical Research Informatics, coordinated and implemented this customized electronic documentation initiative. “We wanted to make it easier for nurses to document patient information while developing a way to display this information in an easier way for the physician group,” he said.

Previously, when patients were admitted to the ICU, the information associated with their condition was recorded on the paper flow sheet and there was not electronic data available to investigators at the point in which their patient’s condition was most critical. “Physicians used to have to physically go up to the ICU, go to the bed, and look at a paper flow sheet to see what was going on. Now investigators who have patients in the ICU can see the clinical data viewer in their offices or from home,” said Kennedy.

Henderson reported that in addition to increasing efficiency and patient safety in the ICU, the system will also allow investigators access to important information that benefits clinical research initiatives. “All the data that is collected on these patients was never entered into the clinical research documentation in the past,” he said. The new system gives researchers the opportunity to easily access and utilize patient information collected while in the ICU.

This long-term project was developed after receiving feedback from Nursing, Critical Care Medicine Department staff, and other CC staff members who care for or see patients in the ICU.

Image: Department of Laboratory Medicine staff (from left): Vivian Morales, Laura Roeder, Gabrielle Farello, Gina Mattia, and Perlita Powers pose with (from left) CC Director Dr. John I. Gallin, Department of Laboratory Medicine Chief Dr. Thomas Fleisher, and CC Deputy Director for Clinical Care Dr. David Henderson during a breakfast marking National Medical Laboratory Professionals Week.

Nurses Week 2011 celebrates caring and compassion

The 2011 Clinical Center Nurses Week hosted by Nursing and Patient Care Services (NPCS) celebrated the care and compassion exhibited by the CC's staff of spectacular nurses every day.

To care for others, care for oneself

Nurses are by nature a selfless people, but to care for others, one must care for oneself. So was the message of the CC Nurses Week kick-off presentation on May 2. Keynote speaker Dr. Ann Berger, chief of Pain and Palliative Care, and panelists offered different perspectives on compassion fatigue and shared coping techniques to overcome the burnout that can come from caring for many, very sick patients.

"The way I have coped with compassion fatigue is spirituality and retail therapy," Berger said with a smile. She asked nurses to watch out for and check in with each other. "Be attentive to colleagues' bad days," she said.

Nicole Gamba, 1NW nurse manager, outlined how her unit responded to a time of high intensity/long-term patients and frequent patient deaths. Their wellness session series responded to staff's request for information on teamwork, relaxation tools, and depression warning signs.

Kimberly Skay of the pediatric clinic spoke about the daily challenge of balancing work and a personal life. Amy Callahan-Lesher, a clinical nurse specialist in surgical oncology/immunology, told stories of how she used humor—in a mature and sensitive way—to ease compassion fatigue and lighten the mood with patients in a dire condition

Bringing nurses together to celebrate

Early in the week and early in the morning, NPCS hosted a night shift staff appreciation breakfast complete with administrators in big white chef's hats.

Ramya Parthasarathy, a nurse on 3NW and Nurses Week committee member, enjoyed the opportunity to mingle with other staff members at the breakfast. "I like the integration and the opportunity to bring everyone together," she said. Nurses across disciplines and institutes gathered on Tuesday and Thursday of Nurses Week for pot-luck themed "block parties." On Tuesday, the first-and-third-floor block party offered a beach party from 1NW and a special spread from the 3SW-N procedural unit titled "Nations United in Care." They had each staff member bring in a dish that represented their culture and invited visitors to guess both the food item and the associated country.

Sombreros, nachos, and other festive flavors were prominently represented at the appropriately timed Cinco de Mayo (May 5) block party for the ambulatory care clinics and the fifth and seventh floor patient-care units. The second block party also hosted spreads appropriately themed to their associated clinics, including "Caring and Compassion are Infectious" from the OP8 Infectious Disease Clinic and "Plasmid Slime Punch" from the 5NE-S Special Clinical Studies Unit.

The week's events also included Clinical Center Grand Rounds presented by LCDR Dr. Margaret Bevans, NPCS clinical nurse scientist, and Dr. Esther Sternberg, chief of the National Institute of Mental Health's Section on Neuroendocrine Immunology and Behavior. They presented "Measuring Stress and Its Impact on Health in Family Caregivers."

Clinical Center responds to back-to-back natural disasters

It was quite a week. A magnitude 5.8 earthquake shook the region at 1:51 pm on August 23, 2011. Meanwhile, Hurricane Irene was barreling up the Atlantic coast with Maryland in its path. The heaviest wind and rain slammed the area near midnight on August 28 and into the early morning hours of August 29.

In the immediate minutes and hours after the quake, patient-care staff did a remarkable job maintaining continuity of patient care, said Dr. David Henderson, CC deputy director for clinical care. The disaster command center was set up within minutes of the earthquake. CC facilities staff and NIH engineers inspected the building to ensure its structural safety. CC leaders walked the hospital floors to inform staff and patients what was happening, which proved a useful communications strategy.

Communications in advance of the hurricane were early and frequent. As the United States Geological Survey notes, you can't predict an earthquake. "This was an unprecedented event and our emergency plans do not deal directly with how to manage an earthquake," said Henderson. "The plan is being modified to include earthquakes and we will assess the evacuation process in case of future earthquakes, so all staff know exactly what to do. We've responded to hurricanes before, and preparation for the storm was an excellent example of collaborative preparation."

The CC was ready for the storm. According to Tannia Cartledge, Nursing and Patient Care Services deputy chief for inpatient services,

"Our nursing staff anticipated patient requirements for the weekend. The administrative coordinators provided on-site support and coordination."

David Folio, Nutrition Department chief reported that staff were prepared to spend the night so that there would be no interruption to patient meals. "Due to the timing of the storm, we decided to keep a cross-section of staff here. We also had metabolic and clinical staff here to cover those areas," Folio said.

The Pharmacy Department doubled the amount of drugs that were to be delivered right before the storm it, just in case. "CC-wide planning for the hurricane was outstanding," noted Bob DeChristophoro, Pharmacy Department chief.

Housekeeping prepared linen for the air beds that Materials Management made available to staff who overnights. They also made sure 55-gallon drums were filled with water in case it was needed for toilet flushing. Materials Management stocked the Pyxis machines with additional medical supply inventory, and ensured plenty of flashlights were ready for distribution.

The potential for flooding was a big concern for the CC Office of Space and Facility Management and the NIH Office of Research Facilities. Staff from both areas had sandbags at the ready and walked the facility regularly during the storm. "Good pre-planning, proactive interventions, and teamwork made this go so well," said Debra Byram, OSFM chief.

CC launches YouTube channel

The Clinical Center has expanded its social media presence with a new YouTube channel.

Videos showcase the CC's innovative scientific studies, programs, and people. A 2010 national survey by the Pew Research Center found that more than 70 percent of online Americans use video-sharing sites such as YouTube and almost 30 percent visit a video-sharing site daily.

The channel complements CC's existing portfolio of social media tools, including Facebook and Twitter. Go online to explore CC offerings: clinicalcenter.nih.gov/newsevents/newmedia.html

Outpatients and staff benefit from new pharmacy system

In line with the Clinical Center's ongoing effort to elevate patient safety, the CC Pharmacy Department implemented a new outpatient pharmacy system in May 2011.

The software and equipment installation improves the process of filling prescriptions for all parties involved—the department staff, the research teams, and the patients.

“The implementation of the new pharmacy outpatient information system is a major advance for the Clinical Center and its patients,” said Dr. David Henderson, deputy director for clinical care. “The system provides an increased measure of safety for our providers and patients and also provides the Clinical Center with improved ability to track the dispensing of outpatient pharmaceuticals, by patient, by institute, and by protocol.”

The system is a customized version of the technology commonly used in retail pharmacies. The Department of Clinical Research Informatics and the Pharmacy Department worked together with the system's manufacturer to integrate with the Clinical Research Information System (CRIS). The team also collaborated to design the database layout and work out the bugs.

A prescriber places an electronic order for a take-home medication in the CRIS and the order is transmitted to the new outpatient pharmacy system. As a safety check, the system will check for drug-drug interactions and for duplicate orders (two orders for the same drug or therapeutic drug class at the same time).

After a pharmacist's approval, the order goes to a fill queue. Upon viewing the order, a technician sees an image of the medication to be filled: a visual reminder to assure accuracy. The technician locates and scans the medication bottle barcode, assuring it is the intended medication, and then fills the order. The system also has the ability to autofill an order using a robotic machine containing approximately 140 commonly requested drugs. Once the order has been filled by the technician, a pharmacist verifies the accuracy of the fill. Each patient's medication bottle displays a label that includes a barcode identifying both the drug and the patient. A pharmacist scans the barcode to verify the order has been filled as intended. As one last safeguard, before a filled order is dispensed to the patient or nurse, a pharmacy employee scans the barcode on each bottle.

“Each of these steps will help us see that the right drug is being dispensed to the right patient,” said Jharana (Tina) Patel, Pharmacy Department quality assurance officer.

Research team members can check dispensing information for each take-home order in the CRIS. When viewing the order summary, one can determine if and when the medication was dispensed and also if there are any remaining refills. This feature helps to track patient's adherence with the medication regimen, which is critical in clinical research studies.

Image: Justine Harris, chief of the Ambulatory Pharmacy Section, checks on an order in the new outpatient pharmacy system, which automates some prescription filling and enhances patient safety.

CC celebrates earth day

Rain forced Earth Day events into the Clinical Center South Lobby on April 28. With them came an animal exhibit including an eagle who delighted NIH staff and visitors.

Teams NIH and USPHS race for the cure

The US Public Health Service officers team, including many CC employees and their families, was the top fundraiser in the US government agency division at the Global Race for the Cure on June 4.

Image: Team NIH (above) raced for research at the five-kilometer Susan G. Komen Global Race for the Cure.

Kids experience a “fantastic voyage”

The Clinical Center hosted future scientists around the hospital at Take Your Child to Work Day in April. Researchers held interactive sessions teaching young visitors about how the brain works, how clinical research is reviewed, and how imaging technology offers detailed pictures of the heart. The Department of Laboratory Medicine presented a “fantastic voyage.”

Updated guidelines aim to eliminate infections

Clinical scientists in the Clinical Center Critical Care Medicine Department (CCMD) have led a revision of the 2002 “Guidelines for Prevention of Intravascular Catheter-Related Infections,” which have been widely influential in contributing to efforts to reduce the impact of catheter infection on patient outcome in hospitals in the United States and around the world.

The new guidelines, which are endorsed by the Centers for Disease Control and Prevention (CDC) and multiple professional societies, were published April 1, 2011, in *Clinical Infectious Diseases*.

“Hospital-acquired infections, and particularly catheter-related bloodstream infections (CRBSI), are now an important benchmark of hospital quality and patient safety,” said lead author Dr. Naomi O’Grady, medical director of procedures, vascular access, and conscious sedation services in the CCMD.

The average CRBSI incidence is about 2.3 per 1,000 patient-catheter days. In US intensive care units (ICUs), about 80,000 CRBSI occur each year and with them, morbidity, mortality, and extended hospital stays.

Catheter-related infections are now seen as largely preventable. In an effort to encourage stringent prevention efforts, Medicare will no longer reimburse for CRBSI acquired during hospitalization, which has hospitals eager to eliminate such infections, O’Grady said.

These guidelines are updates of a process that began in 2000 when O’ Grady and CCMD Chief Dr. Henry Masur were approached by the Society of Critical Care Medicine to develop guidelines to reduce the incidence of CRBSI in ICUs. Recognizing that catheter infections involve health-care professionals from many disciplines, Masur and O’Grady expanded the scope of the guidelines creation process to include the CDC and 11 other professional organizations so that physicians and nurses across disciplines would have one set of guidelines to follow. The CCMD continued to unite physicians and other health-care providers from various specialties—encouraging several more professional organizations to participate—to produce the current guidance to improve patient outcome.

Previous prevention efforts have focused on central venous catheter placement in ICUs due to the procedure’s frequency and the profound effect of hospital-acquired infections on ICU patients. Improved technology has now allowed hospitals to better track CRBSI on other units and in outpatient settings, focusing on patients undergoing cancer treatment or receiving parenteral nutrition.

Many infections occur in patients with longer catheter dwell time (more than seven days), so maintenance and not just insertion is a concern. The guidelines’ authors appeal to a variety of audiences to help prevent CRBSI: those who order the catheter placement, those who insert and maintain intravascular catheters, infection control officers, and patients who are able to assist in the care of their catheters.

Major areas of emphasis in the guidelines include educating and training health-care personnel, using maximal sterile barrier precautions during catheter insertion, skin preparation with chlorhexidine for antisepsis, and avoiding routine replacement of central venous catheters.

Another suggestion is implementation of bundled strategies, where all the supplies for a central venous catheter insertion are packed in a kit at the ready. However, the greatest return on investment might be commitment to process.

“You can get to very low rates of infection without using novel techniques,” O’Grady said. “It’s attention to detail and diligence in adhering to the standards of catheter care that really pay off.”

CC supports effort to address hospital-acquired infections

When someone receives medical care because he or she is ill or hurt, the primary focus is on getting better. But microscopic culprits can cause health care-associated infections (HAIs) that can sometimes undermine that goal.

Each year millions of people become infected during their stays in hospitals and other health-care facilities by microscopic invaders that cause significant morbidity and mortality. The financial burden attributed to HAIs is staggering: \$28 to \$33 billion in excess health-care costs each year, according to the Department of Health and Human Services.

Alarmed by these preventable outcomes, HHS is leading several collaborative efforts among its agencies to improve and expand HAI prevention efforts, and Clinical Center staff have actively joined in efforts to combat this health-care issue.

HAIs are contracted by patients during treatment within a health-care setting, which includes hospitals, same-day surgical centers, ambulatory outpatient care clinics, and long-term care facilities. HAIs cause major setbacks to patients' recovery, and can sometimes be lethal. These infections are typically caused by bacteria or fungi.

The HHS Steering Committee for the Prevention of Health Care-Associated Infections facilitates coordination and efficiency of HAI prevention efforts. Members include high-ranking clinicians, scientists, and public health leaders across HHS. The CC's Deputy Director for Clinical Care Dr. David Henderson represents the CC and the NIH on the committee.

Other CC staff have supported the HAI prevention initiative as expert advisors, reviewers for health-care training materials, and presenters for regional and national meetings. The Hospital Epidemiology Service (HES) contributes to HAI prevention both at a national level and here on the ground. In the CC, the HES is intimately involved with efforts to track and prevent all of the HAIs listed above.

In addition, HES team members have presented their research findings on HAI prevention and control at scientific meetings. Dr. Tara Palmore, CC deputy hospital epidemiologist and National Institute of Allergy and Infectious Diseases staff clinician, summarized the HES's prevention efforts in the 2010 John Laws Decker Memorial Lecture on myths associated with HAIs. Dr. Naomi O'Grady of the Critical Care Medicine Department is the lead author on national guidelines for prevention of catheter-associated bloodstream infections, and brings those guidelines to bear in her role as director of the CC's Procedures, Vascular Access, and Conscious Sedation Services.

The Office of Communications, Patient Recruitment, and Public Liaison lends its expertise in health communications to support the committee's Outreach and Messaging Working Group. Formed to develop and disseminate HAI prevention messages to health-care workers and patients, the working group plans to launch an HAI prevention campaign this year to ensure people are aware of the danger of HAIs and what they can do as individuals to prevent them.

For more information on HAIs and prevention, visit www.cdc.gov/hai/. Find the CC on Facebook and Twitter to receive HAI prevention campaign messages.

NFL star visits to celebrate the commitment and dedication of Clinical Center volunteers

The Clinical Center would not be the same without the support and dedication of its committed volunteers, said Maureen Gormley, CC chief operating officer, at the 28th annual volunteer appreciation celebration on May 11, 2011.

Joining Gormley and the volunteers and staff attending the celebration was Madiou Williams, National Football League star, philanthropist, and CC Volunteer Program alumni.

“I consider this my first real job,” Williams said of the time he spent as a volunteer for the Rehabilitation Medicine Department Recreation Therapy Section. Williams began volunteering in the main playroom to fulfill an internship requirement as a family studies student at the University of Maryland, but enjoyed spending time with patients and their family members so much that he returned to volunteer at the playroom the following summer.

“This place is very special to me,” he said. “I am thankful for people who gave me the opportunity to work here.”

Williams immigrated to Prince George’s County from Sierra Leone with his family at the age of 9. Currently a safety for the Minnesota Vikings, he was originally drafted by the Cincinnati Bengals and played football at the University of Maryland.

In 2005 he founded the Madiou Williams Foundation, an organization focused on health, wellness, nutrition, fitness, and education. Through his foundation, Williams reaches out to youth and teaches them at an early age the importance of a healthy lifestyle. The foundation has supported the construction and operation of a school that serves 243 students in Williams’ hometown of Freetown, Sierra Leone.

In his keynote, Williams credited the experience gained as a volunteer at the CC with building the foundation for the skills he used in starting his organization. “I wish I could have stayed a lot longer, because a lot of the things I learned here are what I am applying to my foundation,” he said. “There are a lot of people less fortunate who don’t have the things we take for granted every day, and my heart goes out to them, especially to the families.”

Williams spoke highly of his time connecting with patients through recreation therapy, even mentioning that he considered applying for a job here before he was drafted to the Bengals.

Recognizing volunteer commitment

The CC Social Work Department’s volunteer program celebrated the work of the more than 200 active volunteers throughout Volunteer Appreciation Week April 11 to 15 and honored outstanding contributions at the appreciation celebration on May 11.

“The work that this very dedicated group of volunteers does on a day-in and day-out basis really displays the kind of warmth and hospitality that’s befitting for our patients,” said Gormley. “This group of special volunteers helps us welcome people and tries to take away as much stress as possible. For that we are so grateful.”

The ceremony honored five volunteers for overall contribution, commitment, dedication, and excellence in customer service in support of the CC mission. “All those things you do really help our patients get through what they are dealing with, whether you recognize it or not. So thank you!” said volunteer program coordinator Courtney Duncan.

Recognized with special recognition awards were: Victor Canino, Language Interpreter Program volunteer; Monica Goodison, Language Interpreter Program volunteer; Cynthia Keane, Pain and Palliative Care services volunteer; Dhamayanthy Pathmanathan, Red Cross Services and Recreation Therapy Section playroom volunteer; Mark Schermerhorn, patient ambassador in OP7, and the volunteer representative to the volunteer advisory group.

Supporting the “House of Hope”

OP7 volunteer Mark Schermerhorn received an award from Courtney Duncan at the May 11th volunteer appreciation ceremony

The inspiration to volunteer at the CC can come from a variety of sources—some volunteers want more experience in a research hospital, some volunteers want to give back to a community that has helped them or their families in the past, some interested in service and the CC’s unique environment and mission.

OP7 volunteer Mark Schermerhorn received an award from Courtney Duncan at the May 11th volunteer appreciation ceremony

CC patients and staff plant hope

On a late fall afternoon, just before the first snowflakes of upcoming winter fell, dozens of volunteers patiently planted thousands of spring bulbs in the atrium courtyards of the Clinical Center.

The good-hearted gardeners included CC patients, staff and their families, and students from the Stone Ridge School of the Sacred Heart and the Thomas W. Pyle Middle School in Bethesda. Together they lay the ground work for the vision of a restful space in a vibrant garden with lots of flower varieties created by Elaine Gallin, wife of CC Director Dr. John I. Gallin, and designed by Lynn Mueller, NIH Office of Facilities Research landscape architect.

“I love to garden, and so it’s a treat to work with the patients, staff, and other CC volunteers to make these already lovely outdoor spaces even prettier,” said Gallin, who also co-planned the event. “I look forward to visiting the CC in springtime, and, hopefully, seeing lots of patients and staff sitting among the gardens bursting with spring flowers.”

Debbie Byram, chief of CC Office of Space and Facility Management, added, “I can’t wait for the spring. To have our patients feel like there are areas in the hospital on one of their days that just don’t feel right that they can come out and see some beautiful gardens that might hopefully make their day a little better... is really an honor to do.”

All of the bulbs were donated to the CC through the Foundation for the NIH. Finding folks willing to get a little dirty wasn’t too difficult either because the courtyards are a shared, treasured resource.

Soon, the ground will be covered with snow. But then, said Byram, a sea of flowers will emerge with spring – and with them will come a feeling of newness and optimism. “The whole mission of this hospital is to provide hope,” said Byram. “And to me, having beautiful flowers is one way to help do that. So that’s what I’m looking at. I’m planting hope.”

Noteworthy

Senator Mark O. Hatfield dies

Senator Mark O. Hatfield died on August 7 at the age of 89. His visionary support of medical research helped make possible his namesake, the Mark O. Hatfield Clinical Research Center, an addition to the CC that was dedicated in 2004 and opened in 2005.

“His unwavering vision was for this hospital to be ground central for creating and providing the next generations of medical treatment and cures,” said Clinical Center Director Dr. John I. Gallin of the senator’s commitment. “He considered the hospital named in his honor to be a new community of hope and once said that it represents the new frontier in medical science.”

NIH Director Francis S. Collins said, “Throughout his lifetime of public service, Mark devoted himself to improving the human condition, often reminding his legislative colleagues of ‘the desperate human needs in our midst.’ And he matched those words with action during his 30 years in the US Senate. As chair of the Senate Committee on Appropriations, he served as a strong and principled advocate for the needs of those who are less fortunate. He also consistently defended the importance of NIH-funded research and its importance to our society. Finally, while the Senator is no longer with us, we can all take heart from his remarks at the Sept. 22, 2004, dedication of the Mark O. Hatfield Clinical Research Center: “There is no medicine like hope. ... My prayer today is that God grant you an abundance of patience, perseverance, and cures.”

Hatfield is survived by his wife, Antoinette, four children, and seven grandchildren.

New clinical chemistry service chief named

Dr. David Sacks has been named chief of the Department of Laboratory Medicine's clinical chemistry service in the Department of Laboratory Medicine. Sacks came to the CC from Harvard University where he directed clinical chemistry at Brigham and Women's Hospital. "There are lots of opportunities here at the Clinical Center," he said. "Since the main focus of the NIH is research, this provides a unique setting where one can develop new lab tests that can be used on patients here and elsewhere, too."

Sacks attended medical school at the University of Cape Town in South Africa and completed his medical internal medicine residency at Georgetown Medical School/DC General Hospital and the Washington DC Veterans Administration Hospital. He completed a second residency in Clinical Pathology at Washington University School of Medicine in St. Louis.

He ran the residency training program at Brigham and Women's Hospital and developed medical student electives. "I used to tell the students that one of the things I like about clinical chemistry is that 10 percent is facts and you work things out for the other 90 percent," Sacks said. His research at the CC will address intracellular signal transduction, or how signals get around inside cells, applied to different disease models.

Munro honored for excellence

Nancy Munro, the senior nurse practitioner in the Clinical Center Critical Care Medicine Department and on the Pulmonary Consult Service, is one of 10 recipients of *Washingtonian* magazine's 2011 Excellence in Nursing Award.

"It's really a great honor," Munro said of the award. "I love being a nurse. It is so satisfying when you can help someone understand or deal with their disease."

Munro earned a bachelor's in nursing from Villanova University and a master's in nursing at Emory University. She received a certificate as an acute care nurse practitioner 1997 from Georgetown University, just as the specialty was emerging. Munro was the first nurse practitioner on the Surgical Critical Care Service at Washington Hospital Center and worked at Inova Alexandria Hospital before joining the Clinical Center in 2004.

"Nancy Munro brings to the Washington, DC, medical community leadership in clinical care for our sickest patients, leadership in training a relatively new category of health care provider, and scholarship to the ICU that enhances the quality of our workforce and our patient care," wrote Dr. Henry Masur, chief of the Critical Care Medicine Department, in Munro's nomination.

Munro is a clinical instructor in the Acute Care Nursing Practitioner/Clinical Nurse Specialist Graduate Program at the University of Maryland School of Nursing in Baltimore. She has made significant contributions to the American Association of Critical-Care Nurses, serving on the group's national board of directors and chairing various work groups that wrote standards for care delivery and identified important education topics.

This year marks the first Excellence in Nursing Awards from *Washingtonian*. Munro and her fellow recipients were honored at a dinner in Washington, DC, on December 7.

Alter receives awards

Dr. Harvey Alter, associate director for research in the Clinical Center Department of Transfusion Medicine and NIH Distinguished Investigator, was honored with two achievement awards in November.

He received a Distinguished Achievement Award from the American Association for the Study of Liver Diseases, the highest scientific honor given by the society. The award recognizes Alter's sustained scientific contributions to the field of liver disease and the scientific foundations of hepatology.

Alter also earned the Tibor Greenwalt Award from the American Association of Blood Banks for major scientific and clinical contributions to hematology and transfusion medicine. The award notes Alter's contribution to understanding of viral infectious risk for recipients of blood transfusions and organ transplants and cites his role in the research teams responsible for identification of two viruses—hepatitis B and hepatitis C—that formerly plagued transfusion recipients.

Masur's work recognized

Dr. Henry Masur, chief of the Clinical Center's Critical Care Medicine Department and prominent AIDS researcher, was recognized in October by Whitman-Walker Health, a community health clinic in Washington, DC, for the role he has played in the fight against HIV/AIDS.

"Each year, Whitman-Walker and AIDS Walk recognize individuals and organizations that are doing outstanding work in the fight against HIV/AIDS," said Don Blanchon, executive director of Whitman-Walker Health, the producer and beneficiary of the Walk. "Since this is the 25th AIDS Walk, we also wanted to reflect on the history of the epidemic here in DC and recognize 25 people who played prominent roles in that history." With Carl Dieffenbach of the National Institute of Allergy and Infectious Diseases (NIAID), Masur leads the DC Partnership for AIDS Progress, a unique collaboration between NIH and the DC government, which aims to create an urban model for decreasing the impact of HIV/AIDS on underserved populations. NIAID, the National Institute of Mental Health, CC, and Office of AIDS Research lead this effort. The program is developing a city-wide database with the 13 largest HIV providers that will make DC the first city to be able to analyze data on all HIV patients in the city and to link with the Department of Health.

In April, he received the John Phillips Memorial Award for Outstanding Work in Clinical Medicine from the American College of Physicians. This award highlights the opportunities that NIH provides intramural scientists to make contributions to clinical medicine and science. The resources and collaborators in the intramural program and the stability of funding provide opportunities to embark on ambitious projects that would be more difficult to accomplish at other institutions, Masur noted.

Smith earns outstanding professional award

Marcia Smith, clinical and internship coordinator at the Clinical Center's Rehabilitation Medicine Department Recreation Therapy Section, was honored with an Outstanding Professional Award by the American Therapeutic Recreation Association (ATRA) in September.

The award recognizes Smith's commitment, dedication, and leadership within the association and the recreational therapy profession as a whole. One nominator wrote, "By being professionally involved, Marcia is more aware of what is going on in the 'big picture' of a vast amount of changes in trends for the profession and health care. She can provide quality services for the patients and treatment teams and she reaches out to mentor others as much as possible."

Smith explains her commitment to training as a way of paying it forward, "If we don't train our students, or if we don't give back what we have learned or what someone has given to us, we will never grow as a profession," she said.

Bioethics chief leaves CC after more than a decade of contributions

Dr. Ezekiel Emanuel's research and recommendations have served a nation of patients and physicians facing tough questions about the ethics of care. His spirit of camaraderie warmed coworkers in his department and around the NIH.

"The NIH has been absolutely the best place to work," said Emanuel, who had chaired the Department of Bioethics. "There are people here who want answers to tough questions ... We've had the great opportunity to develop ideas and see them implemented in policy."

Emanuel earned both his MD and PhD degrees from Harvard University, and much of his research before coming to the CC to chair the Department of Clinical Bioethics (as then called) was in end-of-life care. His career choice came from a push from his father to pursue a medical career and an interest in philosophy and politics. "Bioethics was a unique way of marrying my interests and talents in science with my interests and talents in politics," Emanuel said.

While at the CC, Emanuel was a lead author of the first comprehensive Oxford textbook on clinical research ethics. Other significant contributions during Emanuel's tenure at the NIH include a decade of research into recommendations of revisions to human subjects research regulations. Emanuel also counts his work into the ethics of research in developing countries among his successes. He was detailed as special advisor to the director of the White House Office of Management and Budget for health policy from 2009 to early 2011.

One thing he'll miss from the NIH, Emanuel said, is the people. "People here are very generous with their time and ideas," he said.

"Due to Zeke's vision, intellect, and unbounded energy, the Department of Bioethics has developed a reputation for its exceptional research productivity, fellowship program, and overall significant contributions to the field of bioethics," said Dr. Christine Grady, the department's acting deputy chief.

Facilities chief retires

James Wilson, chief of the Office of Facility Management at the Clinical Center since 1987, retired after more than 33 years at NIH. "This place is my life," he said. "You come to work here, and you try to make a mark. It's been an enjoyable life."

He started at NIH in 1977 as an electrician for the Office of Research Facilities and transferred to the CC in 1982 to manage the CC's responsibilities during the construction of the Ambulatory Care Research Facility. Wilson remained in the CC Office of Facility Management as a facility manager until 1987, when he was appointed chief of the office. As a critical member of the CC team that helped plan and build the Mark O. Hatfield Clinical Research Center, Wilson was instrumental in assuring the CC's mission, patient care and safety, and hospital code requirements were met.

"Throughout his career Jim's motto of 'make it happen' perhaps best describes why he is so respected and admired by all that know and work with him," said Dr. John I. Gallin, CC director. Nurse Terri Wakefield remembered Wilson climbing onto the roof with her to build a snowman outside the second-floor room window of a South American patient in his last days who had never seen snow. "We have depended on him because of his expertise in understanding the building, but he also understands the soul of this place," Wakefield said.

Wilson has been recognized for his contributions throughout his career at the CC and in his community. The many plaques and framed certificates covering his office walls include two NIH Director's Awards, a governor's citation and a Montgomery County Secretary's Distinguished Volunteer Service Award. Wilson has served as a volunteer firefighter in Montgomery County since 1962, moving his way up the ranks to fire chief, a role he still holds today.

Pharmacy Department deputy chief recognized

Dr. Barry Goldspiel, Clinical Center Pharmacy Department deputy chief and chief of the clinical pharmacy specialist section, received the Donald E. Francke Medal from the American Society of Health-System Pharmacists in December 2011. The Francke Medal is one of group's highest awards and is given annually to a pharmacist who has made significant international contributions to health-system pharmacy. The award honors Goldspiel's role in founding the Journal of Oncology Pharmacy Practice, his contribution to the growth of the International Society of Oncology Pharmacy Practitioners, and his work gaining approval of oncology pharmacy as a recognized Board of Pharmacy Specialties specialty.

at NIH, also implemented a program to develop the clinical skills of current trainees in the ACGME core competencies of professionalism, interpersonal and communication skills, and systems-based practice. This program featured small-group interactive seminars and workshops addressing issues of importance to the mission of the NIH Clinical Center, including effective communication with patients and colleagues; management of workplace conflict; elements of a successful informed consent; cross cultural medicine; and coping with dying and death.

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Organization and Governance

ADVISORY BOARD FOR CLINICAL RESEARCH NATIONAL INSTITUTES OF HEALTH
(2011)*

Governance

The NIH Advisory Board for Clinical Research oversees the Clinical Center's resources, planning, and operations. The Board also advises on NIH's overall intramural program, including priority setting, the integration and implementation of research programs of the individual institutes and centers, and overall strategic planning for the intramural program.

Comprised of NIH clinical and scientific leaders and outside experts in management of health care and clinical research, the Board advises the NIH deputy director for intramural research and the Clinical Center director and reports to the NIH director.

CHAIR: Michael J. Klag, MD, MPH

Dean

Johns Hopkins Bloomberg

School of Public Health

VICE-CHAIR: Martin Blaser, MD

Chairman, New York University

Medical Center Department of Medicine

Frederick H. King Professor of Internal Medicine

Robert S. Balaban, PhD

Scientific Director

National Heart, Lung, and Blood Institute

Josephine Briggs, MD

Director, National Center for Complementary
and Alternative Medicine

Michael Rutledge DeBaun, MD, MPH

Professor of Pediatrics

Vice Chair for Clinical Research

Director for Vanderbilt-Meharry Center of

Excellence in Sickle Cell Disease

Vanderbilt Children's Hospital

Joe G. N. "Skip" Garcia, MD

Vice Chancellor for Research

Professor of Medicine

University of Illinois at Chicago

Alan Guttmacher, MD

Director

Eunice Kennedy Shriver National Institute of

Child Health and Human Development

Steve M. Holland, MD

Chief, Laboratory of Clinical Infectious Diseases

National Institute of Allergy and

Infectious Diseases

Deputy Director for Intramural Clinical Research

National Institutes of Health

Rebecca D. Jackson, MD

Director, Center for Clinical and

Translational Science

Associate Dean for Clinical Research

The Ohio State University College of Medicine

Stephen I. Katz, MD, PhD

Director

National Institute of Arthritis and
Musculoskeletal and Skin Diseases

T. Jake Liang, MD

Chief, Hepatology Service

Chief, Liver Diseases Branch

National Institute of Diabetes and Digestive and Kidney Diseases

Crystal Mackall, MD

Chief, Pediatric Oncology Branch

Head, Immunology Section

National Cancer Institute

Peter Markell

Vice President of Finance

Partners HealthCare System, Inc.

Sharon O’Keefe, RN, MSN

President

University of Chicago Medical Center

L. Reuven Pasternak, MD, MPH, MBA

CEO, Inova Fairfax Hospital Campus

Executive Vice President, Academic Affairs

Inova Health System

Steven A. Rosenberg, MD, PhD

Chief, Surgery Branch

National Cancer Institute

Kate E. Walsh, MPH

President and CEO

Boston Medical Center

Ex Officio Members

John I. Gallin, MD

Director

Clinical Center

National Institutes of Health

Michael M. Gottesman, MD

Deputy Director for Intramural Research

National Institutes of Health

Maryland Pao, MD

Chair, Medical Executive Committee

Clinical Director, National Institute of

Mental Health

Executive Secretary

Maureen E. Gormley, RN, MA, MPH

Chief Operating Officer

Clinical Center

National Institutes of Health

Senior Staff Support

Richard G. Wyatt, MD

Executive Director

Office of Intramural Research
National Institutes of Health

*As of December 31, 2011

Medical Executive Committee members (2011)*

NIH Clinical Center

The Medical Executive Committee is made up of clinical directors of the NIH intramural clinical research programs and other senior medical and administrative staff.

Maryland Pao, MD

(Chair)

National Institute of Mental Health

H. Clifford Lane, MD

(Vice-Chair) National Institute of
Allergy and Infectious Diseases

James E. Balow, MD

National Institute of Diabetes and
Digestive and Kidney Diseases

Richard O. Cannon, III, MD

National Heart, Lung, and Blood Institute

Markus Heilig, MD, PhD

National Institute on Alcohol Abuse
and Alcoholism

National Institute on Drug Abuse

William L. Dahut, MD

National Cancer Institute

Josephine M. Egan, MD

National Institute on Aging (Acting)

Frederick L. Ferris, III, MD

National Eye Institute

Avindra Nath MD

National Institute of Neurological
Disorders and Stroke

William A. Gahl, MD, PhD

National Human Genome Research Institute

Clare E. Hastings, PhD, RN, FAAN

NIH Clinical Center

David K. Henderson, MD

NIH Clinical Center

Henry Masur, MD

NIH Clinical Center

James E. Melvin, DDS, PhD

National Institute of Dental and
Craniofacial Research

Deborah P. Merke, MD, MS

NIH Clinical Center

Robert Nussenblatt, MD

National Center for Complementary

and Alternative Medicine (Acting)

Forbes D. Porter, MD

National Institute of Child Health
and Human Development

Steven A. Rosenberg, MD

National Cancer Institute

Leorey Saligan, PhD, RN, CRNP

National Institute of Nursing Research

Richard M. Siegel, MD, PhD

National Institute of Arthritis and
Musculoskeletal and Skin Diseases (Acting)

Srinivas Vourganti, MD

Clinical Fellow

National Cancer Institute

Carter Van Waes, MD, PhD

National Institute on Deafness and
Other Communication Disorders

Frederick W. Miller, MD, PhD

National Institute of Environmental
Health Sciences (Acting)

Ex Officio Members

John I. Gallin, MD

NIH Clinical Center

Steven M. Holland, MD

Deputy Director for Intramural Clinical Research

Patricia A. Kvochak, JD

Deputy NIH Legal Advisor

Richard G. Wyatt, MD

Office of Intramural Research, NIH

Laura M. Lee, RN

NIH Clinical Center

*As of December 31, 2011

NIH Clinical Center Organizational Chart

December 2011

Director: John I. Gallin, MD

There are eight areas that report to the Director. These include:

- Chief Operating Officer: Maureen E. Gormley, MPH, MA, RN
- Chief Nurse Officer: Clare Hastings, PhD, RN
- Chief Financial Officer: Maria Joyce, MBA
- Chief, Department of Bioethics (Acting): Christine Grady, RN, PhD
- Deputy Director for Educational Affairs and Strategic Partnerships: Frederick P. Ognibene, MD
- Chief, Laboratory for Informatics Development: James J. Cimino, MD
- Chief, Radiology and Imaging Sciences: David A. Bluemke, MD, PhD, MsB
- Deputy Director for Clinical Care: David K. Henderson, MD

Reporting to the Chief Operating Officer are the following:

- Deputy for Administration / Office of Administrative Management: Lynda Ray
- Deputy for Workforce Management/Office of Workforce Management and Development: Hillary J. Fitis, JD
- Nutrition Department: David Folio, MS, RD
- Office of Purchasing and Contracts: Sydney Jones
 - Housekeeping Department: Robert B. Mekelburg, MBA
 - Materials Management Department: Francis LaBasco, MS, PD
- Social Work Department: Adrienne Farrar, PhD
- Spiritual Care Department: John M. Pollack, MDiv, BCC
- Office of Communications, Patient Recruitment and Public Liaison: Sara Byars
- Office of Space and Facility Management: Debra A. Byram, RN, MSN
- Office of Hospitality Services: Denise Ford, MS, RD
 - Executive Director, Edmond J. Safra Family Lodge: Denise Ford, MS, RD
 - General Manager, Edmond J. Safra Family Lodge: Bekah E. Geiger, MSW

Reporting to the Chief Nurse Officer are the following:

- Deputy Chief, Ambulatory Care Services: Karen Kaczorowski, RN, MHSA
- Deputy Chief, Inpatient Services: Tannia Cartledge, RN, MS

Reporting to the Chief Financial Officer are the following:

- Office of Financial Resource Management: Daniel Rinehuls
- Office of Management Analysis and Reporting: Melissa B. Moore, MSW, MBA
- Office of Protocol Services: Kim Mitchell, RHIA
- Department of Clinical Research Informatics and Chief Information Officer: Jon W. McKeeby, DSc

Reporting to the Deputy Director for Educational Affairs and Strategic Partnerships is the following:

- Office of Clinical Research Training and Medical Education: Frederick P. Ognibene, MD

Reporting to the Deputy Director for Clinical Care are the following:

- Department of Perioperative Medicine (Acting): Julia Labovsky, MD
- Department of Laboratory Medicine: Thomas A. Fleisher, MD
- Critical Care Medicine Department: Henry Masur, MD
- Pharmacy Department: Robert DeChristoforo, MS
- Rehabilitation Medicine Department: Leighton Chan, MD, MPH
- Department of Transfusion Medicine: Harvey Klein, MD
- Positron Emission Tomography Department: Peter Herscovitch, MD
- Medical Record Department: Patricia Coffey, RHIA
- Office of Credentialing Services: Joseph Hendery, RHIA
- Pain and Palliative Care Service: Ann Berger, MSN, MD
- Internal Medicine Consult Service: Fred Gill, MD
- Hospital Epidemiology Services: David K. Henderson, MD
- Pediatric Consult Service: Deborah Merke, MD
- Clinical Epidemiology and Biostatistics Service: Robert Wesley, PhD
- Veterinary Care Program: Lisa Portnoy, VMD

National Institutes of Health

National Cancer Institute (NCI)

National Eye Institute (NEI)

National Heart, Lung, and Blood Institute (NHLBI)

National Human Genome Research Institute (NHGRI)

National Institute on Aging (NIA)

National Institute on Alcohol Abuse and Alcoholism (NIAAA)

National Institute of Allergy and Infectious Diseases (NIAID)

National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)

National Institute of Biomedical Imaging and Bioengineering (NIBIB)

Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)

National Institute on Deafness and Other Communication Disorders (NIDCD)

National Institute of Dental and Craniofacial Research (NIDCR)

National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)

National Institute on Drug Abuse (NIDA)

National Institute of Environmental Health Sciences (NIEHS)

National Institute of General Medical Sciences (NIGMS)

National Institute of Mental Health (NIMH)

National Institute of Neurological Disorders and Stroke (NINDS)

National Institute of Nursing Research (NINR)

National Library of Medicine (NLM)

Center for Information Technology (CIT)

Center for Scientific Review (CSR)

John E. Fogarty International Center (FIC)

National Center for Complementary and Alternative Medicine (NCCAM)

National Institute on Minority Health and
Health Disparities (NIMHD)

National Center for Research Resources (NCRR) NIH Clinical Center (CC)