



The 2005
Patrick and Catherine Weldon Donaghue
Medical Research Foundation
Annual Report

PROGRESSION

Number 14



The Patrick and Catherine Weldon Donaghue Medical Research Foundation is a charitable trust created pursuant to the will of Ethel F. Donaghue, late of West Hartford, Connecticut. The Foundation, which began operations in 1991, is governed by Bank of America and Raymond S. Andrews, Jr., Trustees. The Foundation is exempt from federal income tax under Section 501(c)(3) of the Internal Revenue Code of 1986, is a private foundation within the meaning of Code Section 509(a), and is subject to the jurisdiction of the Probate Court for the District of West Hartford.

The Foundation's Purpose

The Foundation established hereunder is created and shall be operated solely for the purpose of providing financial assistance for research in the fields of cancer and heart disease and/or other medical research to promote medical knowledge which will be of practical benefit to the preservation, maintenance and improvement of human life.

*From the Will of Ethel F. Donaghue
(1896-1989)*

The Patrick and Catherine Weldon Donaghue Medical Research Foundation was founded by Ethel Donaghue in loving memory of her parents.

2	Letter from the Trustees
4	History & Purpose
6	Letter from the Executive Director
8	Clinical & Community Health
14	Practical Benefit Initiatives
18	Trustee Initiatives
19	Programs
20	Awards
22	Grants
23	Financials
24	Committees

Our Vision

We will be an exemplary participant in the ongoing conduct and continuing advancement of useful health research in Connecticut and beyond.

Our Mission

We will benefit human life and the individual lives of people as an active, imaginative, and collaborative supporter of useful health research, primarily in Connecticut, and we will thereby honor the memory of Ethel Donaghue and her family.

Our Goals

Fidelity to Purpose

We will faithfully carry out the charitable intentions of Ethel Donaghue as expressed in her will, being careful to give her words their proper meaning and best expression in a context of changing facts and conditions.

Grantmaking

We will develop and manage a flexible and well-rounded program of grantmaking initiatives.

In so doing:

(1) We will reflect our Connecticut roots, the Hartford derivation of the Donaghue fortune, and the current health needs of the people of Hartford, Greater Hartford, and Connecticut, with appropriate regard for the underserved, understudied, and disadvantaged.

(2) We will use and help to develop Connecticut talent in health research, fostering teamwork between investigators and clinicians and among individual researchers, disciplines, and institutions throughout Connecticut's complement of research resources.

(3) We will be alert to opportunities and needs for responsive and imaginative focusing of our resources upon targets of importance, with particular thought to those which, but for our involvement, might find inadequate financial support.

(4) We will strive for a balance between the pursuit of new knowledge and its translation into useful forms, between scientific exploration and thoughtful reflection upon the implications of discovery, and between the gaining of knowledge and the pursuit of wisdom to temper our use of it for practical benefit to human life;

(5) We will make full use of our skills and our independence of judgment in seeking out, evaluating, and taking on challenges, being always willing to effect beneficial change through our research funding.

(6) We will promote public awareness of research activities and accomplishments and an appreciation of the value of steady and continued support of skilled inquiry into problems affecting human health.

Community Responsibility

We will work actively and collaboratively within the community of philanthropic organizations in Connecticut to promote responsible service of the public interest, particularly in the field of health research, and we will work to build a strong and enduring bond of understanding, respect and teamwork among those in Connecticut who engage in health research and those who finance their efforts.

Our Values

Purpose
Principle
Practicality
Prudence

As updated by the Trustees August 29, 2000



Trustees

Progression, our theme for the Donaghue annual report on the year 2005, came quite readily to mind as we thought about what particular moves we had made as an organization during the year. Perhaps our most noteworthy single move was to follow through in a tangible way on a commitment to practical benefit that we had made some years ago, when we first spoke of “care as well as cure” and “putting knowledge to useful work.” As we came to realize that practical benefit is not only elusive but also oddly related to the work of research itself, we progressed from basic science to clinical and community issues, and then to practical benefit initiatives and to a focus on behavior. In our own (we think quite logical) progression, we concluded two important things.

First, practical benefit to human life doesn't derive from research itself, nor from breakthrough discoveries, nor even from knowledge in a useful form at the point of use. It's the actual uptake of the knowledge, by which we mean the internalizing of it and the incorporating of it into changed behavior, that leads to the practical benefit we believe Miss Donaghue was after when she envisioned the Donaghue Foundation.

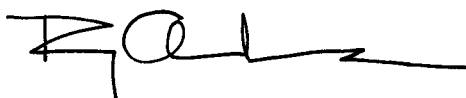
Secondly, after preaching the importance of connecting research to end results for some time now, we've concluded that it's unrealistic to expect our grant recipients themselves — talented and focused researchers accustomed to publishing their results and moving on to other research — to take on the added, and quite formidable, task of moving their results into practice, of making the connection to end results. As Daniel Callahan observed in an interview for our most recent *Practically Speaking* newsletter, the translation of research into practice

seems to be nobody's job, so it's not being done effectively. Somebody should be doing it, and in keeping with our belief that we're somebody, we've taken the next logical step in the progression: moving from exhortation to execution.

During 2005 we developed a new professional staff position within Donaghue and charged our Executive Director with devising a plan whereby the Foundation itself can make the connection, can effectively promote knowledge uptake, the penultimate step in achieving practical benefit to human life. This will involve two things: first, studying how to accomplish the uptake, and second, working to actually accomplish it.

If we look back to our early days as a foundation, our new challenge represents quite a stretch from the conventional research grantmaking we began with. If we look back a bit further to our mandate from Miss Donaghue, it is clearly a stretch she would endorse; she was an express proponent of common sense.

And so, as we move into 2006 and our next initiative, we see all of our growth as a logical progression from our beginnings and our learning along the way. And we're confident it will mean progress as well.



Raymond S. Andrews, Jr.
Trustee



Sheilah B. Rostow
Senior Vice President
Bank of America

History & Purpose

Like the mighty tree that dominates the cover of this report, the “medical knowledge ... of practical benefit to ... human life” that is the constant target of the Donaghue Foundation has its beginnings in a tiny seed. With proper nourishment, expert care, and perhaps occasional pruning, it grows deep roots and strong, far-reaching branches.

The growth of the tree is not unlike the progression of research: starting with a scientist’s curiosity and vision, to the germ of an idea, to a research question, and then a study design, the methodical collection and analysis of data, and eventually the publication of results. And, as illustrated in some of Donaghue’s recent efforts, even beyond.

History

The search for knowledge by Donaghue-funded scientists has been made possible by the lifelong prudence and beneficent vision of one far-sighted West Hartford woman, Ethel F. Donaghue, who died in 1989 without immediate family to inherit her carefully husbanded fortune of about \$60 million. Miss Donaghue was one of Connecticut’s first woman lawyers, having earned degrees from the law schools of both the University of Pennsylvania and New York University by 1922, but her wealth did not derive from the practice of law. She was required to close her Hartford practice early to care for her ill mother Catherine and manage the family finances, which were extensive as a result of the shrewd entrepreneurial spirit of her father Patrick, an Irish immigrant to Hartford in the late 1800s. Patrick had died in 1910 of heart disease, when Ethel was only fourteen, and Catherine succumbed to cancer in 1933.

Although Miss Donaghue enjoyed enviable wealth and was able to travel widely for many years, she lived those years alone in her West Hartford mansion, with only household help for companionship. Spurred on by living through several family health problems and outliving her entire immediate family by over three decades, Miss Donaghue developed an abiding interest in health care and research. She often contributed to hospitals and established two trusts during her lifetime to support research. Her commitment to advancing human health culminated in a trust created under Article Fourteenth of her will and devoting the bulk of her estate to The Patrick and Catherine Weldon Donaghue Medical Research Foundation, which honors the memory of her parents and is now reporting on the completion of its fourteenth year of grantmaking.

Purpose

The testamentary intent of Ethel Donaghue is the immutable mandate for the Donaghue Foundation trustees, who have developed statements of vision, mission and goals (set forth elsewhere in this report) to give ongoing current meaning to Miss Donaghue's laudable purpose. Miss Donaghue said in her will that her trustees should seek out useful health knowledge through research. She envisioned a steadfast pursuit of knowledge that would be of practical benefit to human life, and the trustees have adopted Practical Benefit as a policy and operations compass.

Prominent among Ethel Donaghue's traits were a strong will, a championing of women's causes, a keen sense of the practical, and a healthy dose of common sense. These traits loom large in the trustees' reading of her words, particularly her urging that they undertake unusual and non-standard activities in furtherance of her purpose. A frequent question in trustee discussions of policy and program design is "What would Miss Donaghue do, were she here and in possession of the facts we have?" Nearly as important to the ongoing work of the Donaghue Foundation as *what* we are to do is *how* we are to go about it. That is expressed at length in our statement of goals and has characterized our work up to and including the just-completed year of 2005.

Executive Director

The year 2005 was filled with our customary activities of soliciting and reviewing grant applications which culminate in awarding and monitoring Foundation funds for innovative research. It also brought some unexpected turns.

The Foundation spent \$4.6 million on 41 new and continuing research grants in 2005. For the first year since 2000, the Clinical and Community Health Issues program outspent the Donaghue Investigator program. One reason for this tilt is fewer Investigators with open grants. Fourteen Investigators were selected in the program's first three years, and these cohorts have concluded their grants. Beginning in 2002, fewer applications coincidentally matched the Trustees' decision, as a part of a more conservative spending plan, to grant fewer awards. Since then, nine Investigators were selected during the following four years. A second reason for lowered Donaghue Investigator spending this year is that no new grants were awarded during the 2005 grant cycle. Receiving only four applications, the Trustees felt the program could not support the same standard for competitive selections and decided not to award any grants this year.

The two cycles of the Clinical and Community Health Issues program had many highly rated applications, and nine new grants were funded — double the number for each of the two preceding years. These nine grants are for a wide range of research on clinical practice, public health, and health enhancement activities.

Two Practical Benefit Initiatives were also started during the year. One is a supplemental fourth year to an existing Foundation grant. In 2002, an award made to St. Francis Hospital and Medical Center focused on a weight loss program designed by and for African-American women in twelve Hartford churches. The intervention showed positive results. But knowing that *sustaining* weight loss is the real success, we wanted to know what would happen when the research project "went away." Will the women continue to be motivated to keep up with their healthy life-style choices? Will the churches be able to continue to offer the program? Will

other churches adopt it? We hope the fourth year, co-funded with the Connecticut Health Foundation, will answer these questions. The second PBI program is a research competition based at the University of Connecticut Health Center General Clinical Research Center and focuses on the role of nutrition in reducing or preventing disease.

Collaboration was a key theme throughout 2005. In June the Connecticut Council for Philanthropy joined with Donaghue to sponsor a discussion among the state's grant-makers about using administrative databases for social programs. The keynote speaker, Dennis Culhane, PhD, is a nationally known expert in this effort and discussed his role in several successfully operating public databases. And as a part of developing the Foundation's patient safety research program, The Commonwealth Fund agreed to assist in our project by reviewing grants and providing technical assistance in knowledge uptake activities after the research is concluded.

A new staff person was hired when Jacque Daniel, an eight-year veteran of the Foundation office, moved to Virginia. Following our bias to be open to new possibilities, we created a new and different position to take advantage of the experience offered by Nancy Yedlin, MPH. Nancy now manages the Clinical and Community Health Issues and Donaghue Investigator programs and is spearheading the Foundation's exploration of the role it should take to promote the move of research results to policy and practice.

Each year brings new opportunities. Responding to these is akin to the tree on the cover of this report. Some branches may go off to one side or the other and the pattern of twigs and leaves seem at close range to be irregular, but the overall direction of the tree's growth is clear. Our direction is clear, too, as we work to fulfill Miss Donaghue's purpose to preserve, maintain and improve human life through medical research.



Lynne Garner
Executive Director



Clinical & Community Health

The Clinical and Community Health Issues Program is for health-related research projects that address major medical conditions and social problems affecting the health of individuals, groups and communities.

Differential Diagnosis of Psychotic Patients

Michal Assaf, MD, Senior Research Scientist at the Olin Neuropsychiatry Research Center at Hartford Hospital's Institute of Living, will use her Donaghue Foundation grant to explore the different brain mechanisms that underlie disorganized and incoherent speech in patients with bipolar and schizophrenia disorders. "The fact that both patient groups exhibit this symptom makes it difficult to distinguish between them clinically," says Assaf, "especially in the beginning of the illness. We know that at least a third of bipolar patients and as many as two-thirds of older African-American bipolar patients are misdiagnosed as having schizophrenia."

Using a semantic object-recall MRI task, Assaf will develop an objective tool to differentiate between bipolar and schizophrenia patients based on their brain activation during semantic processing when they first exhibit psychotic symptoms. "Establishing the correct diagnosis early is crucial in starting the appropriate treatment," she says. Assaf emphasizes that working with bipolar and schizophrenia patients requires a highly trained staff able to reduce patients' anxiety, explain the research procedures, and have them successfully complete the MRI test. "All the patients we have seen to date were able to perform the task."

Looking ahead, Assaf expects to develop a reliable, non-invasive and relatively inexpensive differential diagnostic tool for patients with first-episode psychotic symptoms. "I hope that by giving these patients the MRI test early in their illness, psychiatrists will have a better tool to establish the diagnosis of bipolar or schizophrenia. This will allow us to start appropriate treatment as early as possible and improve the long-term outcome of these patients."



Michal Assaf, MD

Contingency Management Reinforcement for Adolescent Cannabis Abuse

Dr. Yifrah Kaminer's interest in the treatment of high-risk behaviors in adolescents is driving his investigation of interventions aimed at improving the unsatisfactory level of drug abstinence among Connecticut youth. "Drug use rates among our youth are...the highest in New England," says Kaminer, a professor in the Department of Psychiatry at the University of Connecticut Health Center. "Although many adolescents with substance abuse problems are retained in treatment, only about a third of them achieve complete abstinence, particularly from marijuana," the drug they most commonly use.

With his Clinical and Community Health Issues Program grant, Kaminer will examine an intervention — Voucher-Based Reinforcement Therapy — that has been successful with adult marijuana abusers. In his study, 72 adolescents with cannabis use disorders will enroll in a 10-week outpatient group cognitive

behavioral therapy trial, followed by a 12-week assessment at The University of Connecticut Health Center. “Half (the participants) will be randomized to a condition where, in addition to therapy, they will receive vouchers (for fast food, movies, etc.) as incentives for clean urine specimens,” says Kaminer, who notes that incentive values will increase in relationship to the length of continued abstinence. “These adolescents will be compared to the other half of the group, which will receive vouchers regardless of the status of their marijuana use.” Kaminer believes his proposed approach has significant potential for developing an effective, cost-effective abstinence-oriented treatment for adolescents. “I hope our results will be disseminated and implemented in non-research clinical settings for adolescents with substance use disorders, as well as enhance larger scale studies...”

Effects of Omega-3 Fatty Acids on Bone and Frailty

Health care costs related to osteoporosis are estimated to be \$14 billion annually, comparable to the costs associated with heart failure and asthma. With her Clinical and Community Health Program grant, **Anne Kenny, MD**, Associate Professor at the University of Connecticut Health Center’s Center on Aging, hopes to better understand the mechanism by which omega-3 fatty acids may affect bone and frailty and,

Carol Lammi-Keefe, PhD, Anne Kenny, MD and Carol Pilbeam, MD, PhD



Dr. Yifrah Kaminer

in doing so, help fight the ravages of osteoporosis and the risk of falls and fracture.

“Osteoporosis and frailty are thought to have inflammation as a contributing factor,” says Kenny. “Omega-3 fatty acids found in fish oil and doco-hexaenoic acid have been shown to decrease inflammation markers...and a number of animal studies suggest that fish oil inhibits bone breakdown, increases calcium absorbed from the diet, and enhances calcium in bone.” Kenny notes that few studies have been done on humans. “As far as we know, no study has evaluated the role of n-3 fatty acids in the frailty syndrome.”

Kenny and her team of investigators hypothesize that because of its anti-inflammatory activity, n-3 essential fatty acid supplementation will decrease bone breakdown, prostaglandins and inflammation markers associated with bone metabolism and frailty, and change physical outcome measures associated with frailty in postmenopausal women selected for low bone mass and frailty. “If a nutritional supplement can be added to other interventions to battle osteoporosis and frailty, and if the mechanism by which omega-3 fatty acids are beneficial can be further defined, more interventions may be developed or explored.”



The Adjuvant Magnesium Trial

People with life-threatening heart rhythm problems often have an implantable cardioverter defibrillator (ICD) inserted into their chest to shock the heart back to normal upon detection of a disturbance. Although effective, ICD shocks are painful, and the fear and anxiety associated with frequent shocks often have a profound impact on a patient's quality of life. With his Community and Clinical Health Program Issues grant, **Jeffrey Kluger, MD**, Director of Heart Rhythm Service at Hartford Hospital, hopes to show that supplemental magnesium may prevent arrhythmias and improve the safety and efficacy of drugs that are often used in combination with ICDs.

"In previous research we have found that people with heart rhythm disturbances are likely to have a magnesium deficiency inside their cells," says Kluger. "While intravenous magnesium sulfate is effective

at preventing and treating such disturbances, it is likely that oral magnesium also would be effective, but it has not been studied." Accordingly, Kluger's team will determine if a regimen of oral magnesium lactate will reduce ICD firings. "If we can show an effect of oral magnesium, it would be considered as adjunctive therapy for other abnormal rhythms in patients with and without an ICD. We might be able to correct an undetected deficiency, prevent heart rhythm abnormalities, reduce the number of required ICD shocks, and reduce the number of hospital admissions for what we term an electrical storm." The bottom line: Kluger says that oral magnesium could become "a standard of care for the hundreds of thousands of ICD patients in Connecticut and around the world."

Prevention of Recurrent Aphthous Stomatitis Using Vitamins

Recurrent Aphthous Stomatitis (RAS) — canker sores — is the most common soft tissue disease of the mouth, affecting up to half the population at some time in their lives. For many, these ulcers can be painful and have a significant impact on nutrition, oral hygiene and speech. According to **Rajesh Lalla, PhD**, Assistant Professor, Oral Diagnosis, at the University of Connecticut Health Center, currently there is no known method to prevent RAS. "Previous studies have demonstrated that correction of vitamin deficiencies in RAS patients is effective in inducing remission or improving the disease," says Lalla. "However, this approach is rarely used in practice due to the invasiveness and expense involved with testing for vitamin deficiencies. Our Donaghue Foundation grant will support the first randomized controlled trial examining an innovative alternative approach — whether a daily multivitamin supplement will be effective in reducing the incidence or duration of RAS episodes."



Jeffrey Kluger, MD



Rajesh Lalla, PhD

Lalla believes that his findings could result in a simple and cost-effective approach to reducing the morbidity of canker sores. “At a minimum, this research will increase our understanding of the pathophysiology of RAS, with implications for other oral ulcerative conditions,” emphasizes Lalla. “If our hypothesis is validated, this study could support a new evidence-based clinical recommendation for patients who commonly suffer from RAS to use a daily multivitamin supplement. Thus, our findings could result in significant practical benefit to the health of those who suffer from canker sores in Greater Hartford (where the subjects enrolled in the study are from), throughout Connecticut and, ultimately, worldwide.”

Neurological Bases of Stuttering: Motor Learning and Control

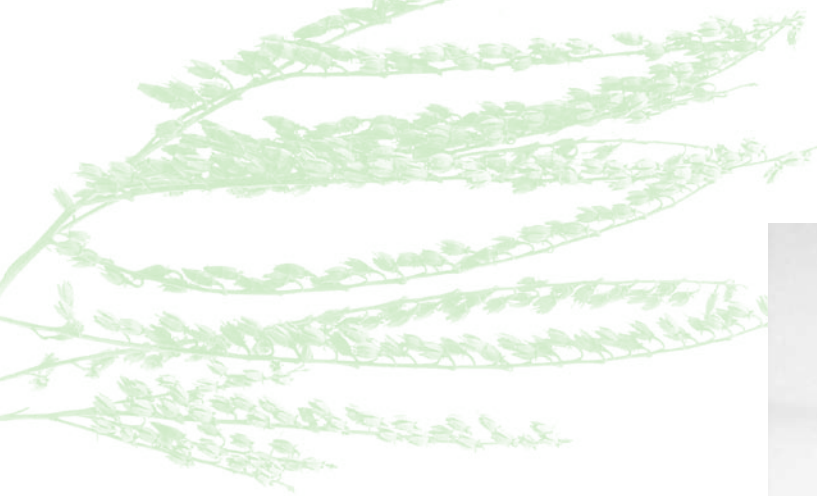
It is estimated that in Connecticut alone there are 35,000 children and adults who stutter. For many, stuttering is a problem that can have a devastating — and lifelong — impact on self-esteem, personal relationships, and the overall quality of one’s life. Yet, according to **Ludo Max, PhD**, Assistant Professor in the Department of Communication Services at the University of Connecticut, progress in improving clinical approaches to treating stuttering has been hindered by a limited understanding of the disorder’s underlying mechanisms. “One of the largest problems facing researchers is that many experimental procedures can only be used with

adult subjects,” says Max. “In addition, experiments based only on speech tasks often prevent researchers from differentiating between cognitive-linguistic speech difficulties and difficulties with sensorimotor aspects of performing speech movements. We have developed sophisticated experiments to address both issues.”

With his Clinical and Community Health Issues Program grant, Max will use state-of-the-art technology (such as virtual reality displays and robotic devices) to gain insights into how the central nervous systems of stuttering and non-stuttering individuals integrate sensory and motor signals for the planning and execution of movements. “The experiments are based on a comprehensive neurobiological model of stuttering, and, as such, may contribute to a much better overall understanding to form the foundation for improved clinical management,” he says. “By studying non-speech motor tasks in both children and adults, we hope to make major gains in understanding if stuttering is best considered a movement disorder and, if so, identify those specific sensorimotor processes that should be targeted in future treatment programs.”

Ludo Max, PhD





Minding the Baby: Home Visiting for Young Parents

Through its Clinical and Community Health Issues Program, the Donaghue Foundation is helping to fund “Minding the Baby”, an interdisciplinary, integrated, advanced practice nursing and mental health home visitation intervention for young first-time mothers in inner city New Haven. Delivered by a nursing/mental health team beginning in mid-pregnancy and continuing with home visits during the child’s first and second years, “Minding the Baby” aims to enhance the strength of the family unit, the health and development of infants and their mothers, the parenting capacities of young mothers, and the mental health of mothers and infants who live in a community affected by urban poverty.

“Minding the Baby”...differs from other home visiting programs in that it is implemented by master’s-trained home visitors and focuses on the mother’s capacity to understand her infant’s emotional needs, as well as provide physical care,” says **Linda Mayes, MD**, Arnold Gessell Professor of Child Psychiatry, Pediatrics and Psychology at the Yale Child Study Center, who is working on the program with her Yale colleagues, **Lois S. Sadler, PhD APRN and Arietta Slade, PhD**. “Mental health issues affect many young mothers living in poverty, yet there are few documented interventions that integrate effective mental health services and preventive infant mental health approaches into services for vulnerable young women...If we, as clinicians, can help enhance their ability to think through their thoughts, behaviors, and choices — with their baby’s needs first and foremost — it is because they, themselves, have also become able to think and take care of their own individual needs. Witnessing this process is most exciting.”



Linda Mayes, MD

Breastfeeding Education and Support Trial for Obese Women

With his Clinical and Community Health Issues Program grant, **Rafael Perez-Escamilla, PhD**, Associate Professor in the Department of Nutritional Sciences at the University of Connecticut, will evaluate an intervention which provides specialized training to help obese women breastfeed exclusively. “One-third of women in the United States are obese, with much higher rates among Blacks and Hispanics,” says Perez-Escamilla. “Furthermore, obese women are less likely to breastfeed their infants than their normal-weight counterparts — a significant public health concern in and beyond our state, given the benefits of breastfeeding for mother and child.”

As part of Perez-Escamilla’s three-year study, obese, pregnant, low-income women considering breastfeeding will be recruited at Hartford Hospital’s prenatal clinic and randomly assigned to receive either standard care or breastfeeding peer counseling provided by local women who have been trained in breastfeeding management and who have successfully breastfed a child. Intervention group participants will receive prenatal home visits, daily visits during

their hospitalization, a series of postpartum home visits from their peer counselor, and follow-up telephone interviews after delivery.

“Our findings will significantly improve our understanding of how to promote breastfeeding among obese women,” says Perez-Escamilla, who notes that his study is the first of its kind in the U.S. At the study’s conclusion, Perez-Escamilla hopes “to deliver a best practices clinical and community-based breastfeeding support model for obese women...that will be particularly useful to health care providers and administrators who educate and support pregnant women and new mothers about the impact of their infant feeding decisions.”



Rafael Perez-Escamilla, PhD

Neurocognitive Changes in Primary Hyperparathyroidism

With her Community and Clinical Health Issues Program grant, **Julie Ann Sosa, MD**, Assistant Professor of Surgery at the Yale School of Medicine, is studying the psychiatric and neurocognitive changes associated with primary hyperparathyroidism – a condition in which the small glands in the neck (the parathyroid glands) produce excess parathyroid hormone, which can lead to the depletion of calcium in the bones. “It has long been believed that primary hyperparathyroidism also can cause depression,

anxiety, and memory problems,” says Sosa, who notes that parathyroidectomy, the surgical removal of the glands, is considered the best treatment for the condition. “However, physicians have often ignored these symptoms due to the lack of medical research and the fact that in the population most commonly affected by this condition — women in their sixties and seventies — such symptoms are common.”

Sosa’s study will bring together surgeons, psychiatrists and internists from the Yale School of Medicine. Over the next two years, patients who undergo a parathyroidectomy will be evaluated using several psychological and memory tests administered before and after surgery to determine if the surgery improves mood, memory, and concentration. “We hope the results will lead to the development of a ‘best practice’ treatment for primary hyperparathyroidism among these overlooked populations,” adds Sosa. “Our data could provide doctors with new information necessary for potentially changing criteria for referral for early surgery. With better understanding of the psychological and memory aspects of primary hyperparathyroidism, we hope to increase physician awareness of these subtle symptoms, and in doing so better recognize patients who may benefit from surgery.”

Julie Ann Sosa, MD



Practical Benefit Initiatives

Funding is based upon promise of practical benefit to human life and a likelihood that but for the Foundation's support, the research might not be done.

The Donaghue Nutrition Research Competition

In October 2005, the Donaghue Foundation established a Practical Benefit Initiatives program at the University of Connecticut Health Center to “jump-start” new and innovative research on the role nutrition plays in preventing or reducing disease and helping to achieve and maintain optimal health. The PBI — known as the Donaghue Nutrition Research Competition — will run for five years at a total cost of \$550,000. Each year, the program will solicit, evaluate and fund studies by faculty at the University of Connecticut’s Storrs and Farmington campuses, as well as other Connecticut-based hospitals and research institutions, with a three-fold purpose: to produce promising pilot studies; to conduct smaller studies with highly innovative hypotheses; and to support faculty new to the field of nutrition research.

The program is a collaboration of researchers from both the Storrs and Farmington campuses of the University of Connecticut, including Herbert Bonkovsky, MD, Professor of Medicine and Director of the Liver-Biliary-Pancreatic Center; Jane Kerstetter, PhD, Associate Professor, School of Allied Health; Anne Kenny, MD, Associate Professor of Medicine; and the late Richard Berlin, MD, former Associate Dean for Research.

Financial support from the Donaghue Foundation will provide a mechanism for the funding of research on safe and effective approaches to the prevention and treatment of disease through nutrition, with a focus on bionutrition and complementary and alternative medicine (CAM), including the use of natural products (such as herbs and enzymes) or diet-based therapies. Although CAM is highly popular, its purported benefits have not been based on scientifically rigorous research. The Donaghue Nutrition Research Competition will enable rigorous human studies to be undertaken, thus setting the stage for additional cutting edge clinical and translational research in the areas of CAM and nutrition.

According to officials at UConn Health Center, several diverse projects involving nutrition and lifestyle changes already have been identified as having significant potential to improve health and disease prevention — including the effects of calcium, protein and salt intake on bone health, cardiovascular function and cancer; the effect of fatty acid compositions of the diet on bone and pulmonary function; whether prolonged ingestion of local honey by young children can prevent allergic airway disease; studies to determine the role of soy protein on bone health; and how special diets and CAM affect liver function. “The outcomes



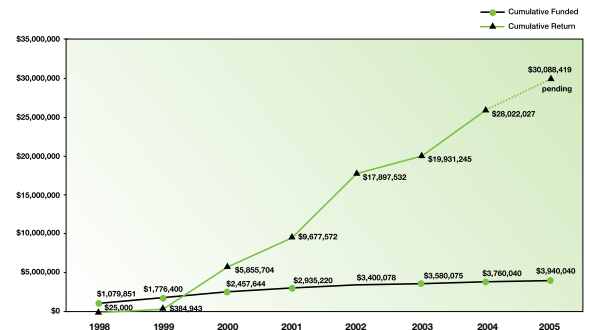
Jane Kerstetter, PhD and Anne Kenny, MD

PRACTICAL BENEFIT INITIATIVES

of this project will directly affect our health” says Kerstetter. “With only a few exceptions, we all ingest food as our source of nutrition and almost all of us, at one time or another, will change what we eat in order to have some type of positive health outcome. Will these changes be safe? Will they be effective? This funding will help us answer these questions that affect us all.”

Many of these projects will be conducted at the Health Center’s General Clinical Research Center. “The University of Connecticut GCRC is the right place for this program because it is the focus of high-quality, peer-reviewed, investigator-initiated original research (at the Health Center),” says Bonkovksy. “The GCRC has the trained staff and infrastructure needed in order for this new initiative to ‘hit the ground running.’ We are highly appreciative of and invigorated by the ongoing support of the Donaghue Foundation for this new joint effort in clinical and translational research in nutrition.”

“We will work collaboratively and interactively with the Trustees of the Donaghue Foundation to foster high quality, scientifically sound research in the area of bionutrition and complementary and alternative medicine,” says Kenny. “Because of the broad interest in and importance of nutrition and CAM, the Donaghue Nutrition Research Competition promises to provide practical benefit to the citizens of Connecticut. Ultimately, we are hopeful that the research conducted through the program will inform reliable health recommendations throughout the country and the world.”



Women's Health Research at Yale
The Ethel F. Donaghue Women's Health Investigator Program - Funded Investigators Only

Continuation

Change does not come from the results of any one research study. It takes incremental steps to create the knowledge base from which healthcare practice and policy are improved. The financial commitment for these many steps, however, is usually too large for one funder; certainly that is true for Donaghue. We understand that most studies we fund have previously benefited from grants by other private and public funding agencies. Similarly, we hope the results of our grants will provide the springboard for additional funds to further study the topic. The Women's Health Research at Yale is an exemplary model for this process. \$3.9 million in grants made by the Ethel F. Donaghue Women's Health Investigators program has yielded over \$26 million in new external grants for further research. The Donaghue Nutrition Research Competition is designed to provide this same leverage for additional, much-needed research into the benefit — or lack of benefit — of nutrition and nutritional supplements on health.

Practical Benefit Initiatives

Hospitals and Churches: A Partnership for Health

As part of its Practical Benefit Initiative program, in 2002 the Donaghue Foundation awarded St. Francis Hospital and Medical Center a grant of more than \$700,000 to undertake a three-year study to assess the feasibility, acceptability and efficacy of translating and delivering an existing weight control program for African-American and Black women in a church setting. The project, known as SisterTalk Hartford (STH), is based on SisterTalk Boston, a culturally tailored weight loss program that successfully demonstrated the benefits of culturally tailored health programs.

According to **Judith Fifield, PhD**, Director of the UCONN Health Policy and Primary Care Research Center, and Director of Research in Family Medicine at Saint Francis Hospital and Medical Center and the University of Connecticut Health Center, SisterTalk Hartford was motivated by an interest on the part of the city's African-American and Black church leaders for an effective solution to the obesity and weight problem among their congregations and communities. "SisterTalk Hartford is a film-plus-support-group program that is theory- and faith-based, real-world tested and designed for delivery in and by the church," says Fifield, who heads up the ethnically diverse, multidisciplinary STH project team. "We work in partnership with the churches. Together, we developed a program that blends science, theory and faith. The resulting program activates participants to be knowledgeable, confident and motivated to change behavior and problem solve for long term weight control."

Since its inception, 321 women in twelve Hartford-area congregations have participated in STH. Fifield reports that results to date have been promising, so much so that the Donaghue Foundation and the Connecticut Health Foundation are providing a fourth year of funding (approximately \$172,000) to study the sustainability of the weight loss intervention, both as a program and as a weight loss strategy. "Preliminary data analyses show that the participating



Cheryl Henderson, PhD, Co-Investigator and Lisandra Gonzalez, MPH, SisterTalk Hartford Project Manager

churches have stayed committed to the study over the last three years, and all have signed commitment letters to remain with the study for the supplement year," Fifield adds. "Our results suggest that it is possible to translate a culturally tailored weight control program into a faith-based program delivered in and by the church, in which women will enroll — and remain enrolled — in high numbers. Of equal importance is data indicating that participation in SisterTalk Hartford will result in significantly greater BMI (Body Mass Index) loss than a parallel health program."

With those results in hand, the researchers of SisterTalk Hartford will turn their attention to the work ahead of them in the fourth year of the program. "The additional year will address three specific aims," says Donaghue Foundation Executive Director Lynne Garner, PhD. "First, it will determine the degree to which weight losses have been sustained through the

15 months that followed the women's participation in the groups. Second, it will seek to understand how the intervention is adopted by the churches once it has been turned over to them and the research phase has ended. And, third, it will modify the existing SisterTalk Hartford materials to make them more user-friendly, economical and portable, thus enhancing the ease with which the program can be shared with others."



Seated: Irene Shannon, Participant *Standing:* Pastor Kenric Prescott, Pastor/Teacher, Union Baptist Church and Reverend Nona Stewart, Lead Volunteer, Shiloh Baptist Church

Connecticut Health
Foundation



Connecticut
Council
for
Philanthropy

Collaboration

Why not go it alone? In some ways, it's simpler. But sometimes the final result of a solo effort can be less than imagined or hoped for.

Most health problems are multifaceted. They encompass biological, environmental, and social factors, and these problems are addressed in a complex health care system. Because of this, expertise from different perspectives is needed to make significant improvements. As a supporter of medical research, we see that each research project also benefits from various ways of seeing the world.

One example, "Sister Talk Hartford" is built on a collaboration among churches, a hospital, and an academic medical center – groups not frequently joined together. This year the collaboration was expanded by partial funding from The Connecticut Health Foundation.

Donaghue is expanding its collaborations with the hope of leveraging greater benefit for improvement of health. The collaborations, described in the Trustee Initiatives, have themselves been multifaceted. We have worked with other funders to support efforts by governmental, community and faith-based organizations engaged in innovative multidisciplinary efforts at tackling health problems. We've also been active participants, along with several other philanthropic groups, in the Hartford Health Disparities Collaborative, whose objective is to assist local health officials in procuring governmental funding to improve access to care by Hartford's underserved.

With our focus on research, we are aware that our efforts to improve health can be importantly enhanced by working with others whose mission may be different but complementary. We will continue to seek new opportunities to collaborate since we believe we'll be more effective than if we "go it alone."

Trustee Initiatives

Through the Donaghue Foundation's Trustee Initiatives, the trustees use a small percentage of each year's grant funding very flexibly on exploratory undertakings that further Foundation purposes. During 2005, approximately \$27,500 was allocated for four Trustee Initiatives in support of our goal of communicating and disseminating promising research results.

Breast Cancer Project

In February the Foundation provided \$20,000 to the Breast Cancer Project of the Environment and Human Health, Inc. of North Haven Connecticut as a part of the cost for a survey on breast cancer awareness. The purpose of the survey is to learn women's perceptions of breast cancer risk factors. With a firm understanding of the gaps or misperceptions in women's knowledge, appropriate recommendations can be made to policy makers on educational effort to prevent breast cancer.

Environment and Human Health has an impressive track record of conducting fact-finding projects on health issues linked to environmental causes — diesel fumes from school buses, use of pesticides, school lunch programs — and presenting the information to policy makers in an easily understood format.

Using Data to Support Strategic Decision-Making: Building Public Databases in Connecticut

Donaghue joined with the Connecticut Council for Philanthropy in June to sponsor a program in the use of integrated databases for improved decision making and evaluation by public or providers. Donaghue science adviser and former member of the Foundation's Policy Advisory Committee, Howard Bailit, DMD, PhD, moderated the program.

Dennis Culhane, PhD, a national expert in use of administrative databases for social change, was the keynote speaker. Current efforts in Connecticut to integrate and use various databases were also discussed.

Hartford Health Disparities Collaborative

Donaghue is one of several Hartford-area health funders which have joined forces to reduce health disparities among Hartford residents through cooperative initiatives, shared information, and increased awareness among policy leaders, citizens, and the general public. \$5,000 was provided by Donaghue toward the Collaborative's contribution of \$25,000 to assist in the public outreach portion of the Mayor's Health Community Initiative.

Lessons Learned: Toward Safer Healthcare

Legislators, their staff members, and the general public were invited to a briefing on patient safety provided by the Connecticut Center for Patient Safety. Donaghue was a sponsor, though no funds were provided. Other sponsors of the briefing included the Healthcare For All Coalition and the Connecticut Health Foundation. The central topic discussed was the potential for redesigned peer review processes to enhance patient safety.

Programs

The Donaghue Foundation conducts several programs and initiatives in support of Connecticut-focused research and related work. Interested persons should contact the Foundation office for detailed program information and application forms.

Investigator-Initiated Research:

(1) The Clinical and Community Health Issues Program is for health-related research projects that address major medical conditions and social problems affecting the health of individuals, groups and communities. Of particular interest are studies focusing on more effective methods of preventing, diagnosing, and treating illnesses and conditions that have a major impact on health in Connecticut. C&CH grants are up to \$240,000 over periods of one to three years. Applications are invited after scientific and policy review of letters of intent.

(2) The Donaghue Investigator Program supports particularly promising medical researchers holding faculty appointments at Connecticut institutions. The program emphasis is upon the researcher rather than upon a specific research project. Awards of \$100,000 per year, for up to five years, are made.

Practical Benefit Initiatives:

The PBI program has no specific timeline for applications and no pre-determined award amounts. The Foundation itself initiates research projects in an interactive process with prospective investigators. Funding is based upon promise of practical benefit to human life and a likelihood that but for the Foundation's support, the research might not be done.

(1) Targets of Research Opportunity:

The Foundation actively seeks funding opportunities for timely and needed research projects outside the parameters of investigator-initiated research programs.

(2) Focused Centers of Research: The Foundation invites discussion of proposed programs of coordinated research effort. The Foundation prefers collaborative, multidisciplinary, integrative programs that are patient-oriented and/or community-focused and that target understudied fields or populations.

(3) Knowledge at Work: The Foundation supports research focused specifically on improving the ways new discoveries are translated into useful knowledge and disseminated to the point of actual use.

(4) Trustee Initiatives: In addition to the programs above, the Trustees are prepared to spend a small percentage of each year's grant funds on exploratory undertakings that further Foundation purposes.

2005 Awards

Research in Clinical & Community Health Issues

Michal Assaf, MD

Institute of Living/Hartford Hospital
Differential diagnosis of psychotic patients

Yifrah Kaminer, MD

University of Connecticut Health Center
Contingency management reinforcement for adolescent cannabis abuse

Anne Kenny, MD

University of Connecticut Health Center
Effects of Omega-3 fatty acids on bone and frailty

Jeffrey Kluger, MD

Hartford Hospital
The adjuvant magnesium trial (AdMag)

Rajesh V. Lalla, PhD

University of Connecticut Health Center
Prevention of recurrent aphthous stomatitis using vitamins

Ludo Max, PhD

University of Connecticut
Neurological bases of stuttering: Motor learning and control

Linda Mayes, MD

Yale University School of Medicine
Minding the baby: Home visiting for young parents

Rafael Perez-Escamilla, PhD

University of Connecticut
Breastfeeding education and support trial for obese women

Julie Ann Sosa, MD

Yale University School of Medicine
Neurocognitive changes in primary hyperparathyroidism

Practical Benefit Initiatives

Richard D. Berlin, MD*

University of Connecticut Health Center
The Donaghue Nutrition Research Competition

**Deceased*

Responsibility for the grant has been transferred to Bruce Koeppen, MD

Judith Fifield, PhD

Saint Francis Hospital and Medical Center
Hospital and Churches: Partnership to Improve Health —
A One-Year Supplement

Continuation Awards

Research in Clinical & Community Health Issues

Richard Fortinsky, PhD

University of Connecticut Health Center
Care consultation for families of dementia patients

Tony George, MD

Yale School of Medicine
Nicotinic antagonist augmentation of SSRI antidepressants

Naveed Hussain, MBBS

University of Connecticut Health Center
Regional database to study outcomes in premature babies

Jeffrey Kahn, MD, PhD

Yale School of Medicine
Epidemiological investigation of human respiratory viruses

Robert Kerns, PhD

Yale School of Medicine
CBT treatment for painful diabetic neuropathy

Carol Lammi-Keefe, PhD

University of Connecticut
DHA functional food in pregnancy: Post-partum depression

George Mansoor, MD

University of Connecticut Health Center
Effects of ascorbic acid on ambulatory blood pressure

Linda Niccolai, PhD

Yale School of Medicine
Risk in partnerships for repeat sexually transmitted infections

Gerard Sanacora, MD

Yale School of Medicine

Potential predictor to response to CBT

Paul Thompson, MD

Hartford Hospital

Skeletal muscle gene expression in patients with statin-induced myalgia

Samuel Varghese, MD

St. Francis Hospital and Medical Center

The mechanism of bone loss in inflammatory diseases

C. Michael White, MD

Hartford Hospital

The atrial fibrillation suppression trial (AFIST III)

Donaghue Investigator**Elizabeth Bradley, PhD**

Yale School of Medicine

Quality improvement efforts in the care of older adults

Kevin Claffey, PhD

University of Connecticut Health Center

Mechanisms of MT1-MMP-dependent breast cancer metastasis

Lisa Dierker, PhD

Wesleyan University

Impact of child psychopathology and intervention on later substance use

Sandra Hewett, PhD

University of Connecticut Health Center

Mechanisms of inflammatory central nervous system injury

Barbara Kazmierczak, MD, PhD

Yale School of Medicine

The role of epithelial cells in host defense against pathogens

Stephen King, PhD

University of Connecticut Health Center

Intracellular transport and the regulation of molecular motor-cargo interactions

Richard Marottoli, MD, MPH

Yale School of Medicine

Enhancing older driver safety and mobility

Ishita Mukerji, PhD

Wesleyan University

Structural studies of sickle cell hemoglobin fibers

Cheryl Oncken, MD

University of Connecticut Health Center

Maternal genetics, cigarette smoking and infant birth weight

Nancy Petry, PhD

University of Connecticut Health Center

Brief interventions for problem gamblers

Carol Pilbeam, MD, PhD

University of Connecticut Health Center

Development of new therapies for increasing bone formation and treating osteoporosis

Robert Reenan, PhD

University of Connecticut Health Center

Changes in ion channel and receptor function in brains of adults

Francisco Sylvester, MD

Connecticut Children's Medical Center

Understanding bone loss in children with chronic gastrointestinal diseases

Practical Benefit Initiatives**Judith Fifield, PhD**

St. Francis Hospital and Medical Center

Hospital and Churches: Partnership to Improve Health

Robert J. Levine, MD

Yale University

Donaghue Initiative in Biomedical and Behavioral Research Ethics

Carolyn Mazure, PhD

Yale University School of Medicine

Ethel Donaghue Women's Health Investigator Program

Mary Tinetti, MD

Yale University School of Medicine

Dorothy Baker, PhD

Yale University School of Medicine

Connecticut Collaborative Fall Prevention Project

Scott Woods, MD

Yale University School of Medicine

Donaghue Early Schizophrenia Initiative

Grants

Institution	New	Continuation	Total
Connecticut Children's Medical Center	0	1	1
Hartford Hospital/Institute of Living	2	2	4
St. Francis Hospital & Medical Center	1	2	3
University of Connecticut Health Center	4	10	14
University of Connecticut - Storrs	2	1	3
Wesleyan University	0	2	2
Yale University	0	1	1
Yale School of Medicine	2	11	13
Total	11	30	41

Funds Awarded by Grant Program for Grant Cycles Beginning in 2005

Research in Clinical & Community Health Issues

New (9)	\$ 725,641
Continuing (12)	\$ 769,183
	\$1,494,824

Donaghue Investigator Program

New (0)	\$ 0
Continuing (13)	\$ 973,358
	\$ 973,358

Practical Benefit Initiative

New (2)	\$ 215,360
Continuing (5)	\$1,993,876

Research in Clinical
& Community Health

\$1,494,824

Donaghue Investigator Program

\$ 973,358

Practical Benefit Initiatives

\$2,209,236

Funds awarded by Grant Program for Grant Cycles beginning in 2005: \$4,677,418

Financials

2005 FINANCIAL INFORMATION

Statement of assets and fund balance as of December 31, 2005

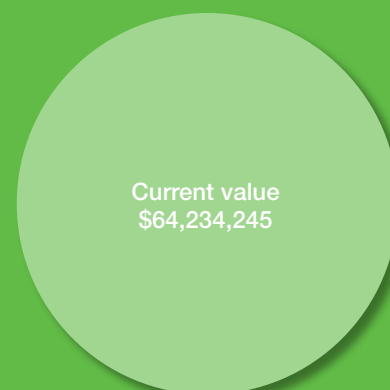
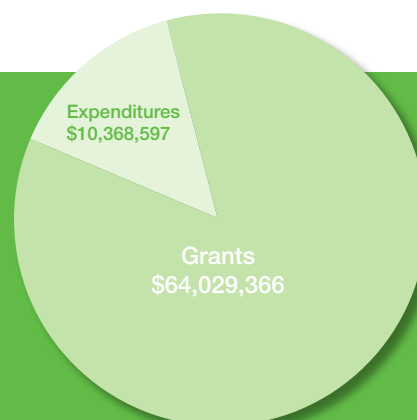
Investment in marketable securities	\$ 64,181,040
Cash and cash equivalent	\$ 4,929,970
Other assets	\$ 53,205
total assets and fund balance	\$ 69,164,215

Statement of income and expenditures for the twelve months ended December 31, 2005

Income	\$ 1,939,724
Expenditures	
Program	
Grants	
Clinical and Community Health	\$ 1,494,824
Donaghue Investigator	\$ 973,358
Practical Benefit Initiatives	\$ 2,209,236
Subtotal	\$ 4,677,418 ¹
Program Support	\$ 152,339
Management and General	\$ 633,379
Investment Management	\$ 98,932
Total Expenditures	\$ 5,562,068 ²

Note 1: In addition to this amount, the Foundation facilitated \$144,399 in research grants for foundations or other philanthropic sources.

Note 2: In addition to these expenditures, an estimated amount of up to \$3,985,888 has been earmarked for future spending in support of ongoing grants. The figures listed above are unaudited. Fair market values are approximate.



Committees

SCIENTIFIC ADVISERS

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Science Adviser to the Trustees

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University of Connecticut Health Center
Professor Emeritus

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LEAVE A LEGACY CONNECTICUT

Ethel Donaghue's legacy would be even more meaningful if her Foundation's efforts prompted others to support health research as a part of their own philanthropic planning. The Donaghue Foundation supports the work of Leave a Legacy Connecticut and encourages people to include charitable bequests for health research purposes in their wills. While the Foundation will accept additional funds itself only if they are solely and expressly for Miss Donaghue's own testamentary purpose, we do believe strongly in the public value of committing private sector resources to the ongoing cause of health research.





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