

18 North Main Street West Hartford, CT 06107-1919 860-521-9011 www.donaghue.org Ninth Annual Report: 2000

# "All my life's a circle, sunrise and sundown..."



## "... The moon rolls through the nighttime, 'til the daybreak comes around.

#### 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 Fleet National Bank 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.

All my life's a circle, but I can't tell you why.

The seasons spinning 'round again, the years keep on rolling by."

Lyrics from "Circle" by Harry Chapin

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#### STATEMENTS OF VISION, MISSION & GOALS

As updated by the Trustees August 29, 2000

#### **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 grant-making 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



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

#### Letter from the Trustees

was the year of the circle for the Donaghue Foundation, particularly for the Trustees. The circle is a fundamental figure in our human experience, and the Trustees have often alluded to circles in our own discus-

A convenient way to characterize our key
events of the year is to invoke the circle
theme of this report and view where we
looked forward, where we looked around us,
and where we reflected on our own past.

sions: concentric circles of benefit centered on Hartford; bull's-eyes in our Targets of Opportunity program; the wonderful circle of advisers who surround us; and the annual cycles of Donaghue grant-making. As the songwriter-philosopher Harry Chapin so graphically sug-

gested in his folk ballad *Circle*, all our lives are inextricably linked to the phenomenon of cyclical activity, with each cycle hopefully incorporating our learning and carrying us beyond where we were before.

The year 2000 marked the completion of yet another of Donaghue's cycles, but it was a particularly noteworthy year for the Foundation: we completed our first decade and began focusing on our new millennium. A convenient way to characterize our key events of the year is to invoke the circle theme of this report and view where we looked forward, where we looked around

us, and where we reflected on our own past. Other sections of the report detail our forward and lateral efforts; this letter will focus on our "Circling Back" project.

For the Trustees ourselves — and, we think, for the future of the Foundation clearly the most important single activity of 2000 was a systematic revisiting of our own past and an examination of our earlier policy decisions in the light of all we've learned since the beginning of the Foundation. Nearing the end of our first decade, we wanted to position the Foundation for the next, basing our decisions on a disciplined reflection on our ten short years of history. So we "circled back" on ourselves and, one after another, challenged the choices we've made about philosophy, strategy, structure, function, program. Everything but Ethel Donaghue's purpose was up for improvement.

While the purpose assigned to us by Miss Donaghue remains immutable, we dissected our own interpretations of that purpose — our vision, our mission statement, our goals, and our profile of grant-making programs. Updated statements, together with a set of values we've adopted as navigational aids, appear in this annual report.

Our reflections prompted us to build our future upon our greatest strengths: our substantial assets, our capacity for flexibility, and our freedom from outside influences that could constrain our exercise of judgment. Accordingly, we reaffirmed our commitment to Practical Benefit funding initiatives as a major part of our ongoing work. Sensitive to the importance of seamless continuity and to our dependence upon just a few people, we examined structural alternatives and developed a succession plan. Miss Donaghue had the foresight to authorize us to make structural changes, but she could not have spelled out a bullet-proof plan to ensure smooth transitions indefinitely. We tried to do some of that. And we decided, based upon our present knowledge, that we have in place the best of all possible vehicles for carrying out Miss Donaghue's purpose.

Our advisers are a critical part of our efforts, giving us invaluable insights from a wide range of perspectives. To strengthen our structure we will reconstitute our advisory committees to bring more breadth to policy discussions and more specific focus on program development.

Our deliberations highlighted the opportunity Connecticut presents as a laboratory for experiments in health improvement, and we resolved to actively seek out ways to make use of the Connecticut laboratory and the state's research talent. One particularly graphic example of this approach is the Connecticut Collaborative Fall Prevention Project featured in this report.

Just as we balance our trust investments for greater productivity, we will develop a balanced portfolio of "investments" in research studies, thinking laterally and searching widely for answers to health questions.

We concluded our 2000 self-assessment by sprucing up the Foundation's identity. Our new logo not only carries on the circle theme but also suggests a bridge and represents our commitment to making connections and spanning gaps to link

science and humanity. Interestingly, little else will change as we move into 2001. Out of our study came a conviction that we're doing Ethel Donaghue's work the way she would have done it herself or asked us to, and that is our job as Donaghue Trustees.



Raymond S. Andrews, Jr. and Sheilah B. Rostow

Just as we balance our trust investments for greater productivity, we will develop a balanced portfolio of "investments" in research studies, thinking laterally and searching widely for answers to health questions.

Raymond S. Andrews, Jr. Trustee

Sheilah B. Rostow Vice President, Fleet Bank Trustee

#### Purpose and Prologue



ith The Patrick and Catherine Weldon Donaghue Medical Research Foundation having just completed its tenth year, it seems especially timely to circle back and focus on our very purpose — and on why we do what we do.

Ethel F. Donaghue died in 1989, after living alone — and lonely — in her grand West Hartford home for 30 years, many of

which she spent in poor health. One of Connecticut's first woman lawyers, Miss Donaghue stipulated in her will that nearly all of her family's considerable wealth be devoted to the search for useful knowledge about human health. To carry out that search, and to honor

the memory of her parents, Patrick and Catherine Weldon Donaghue, she created a charitable trust of more than \$50 million, to be used for the express purpose of seeking "medical knowledge...of practical benefit to...human life."

As we gain experience, we are increasingly confident that our circling takes us places she would want us to go, creating new and imaginative opportunities to seek medical knowledge of practical benefit to human life.



Today, the Donaghue Foundation strives to give ongoing life and relevance to Miss Donaghue's visionary testamentary intent. A simple charge? Hardly. The intent of her will, with its purposeful ambiguity, requires us to circle back on a regular basis to determine that we are headed in the right direction with regard to carrying out Miss Donaghue's wishes. Because we never can be sure exactly what Miss Donaghue would want us to do with the millions she entrusted to us, we often go over the same ground — yes, around in circles — checking our compass to reevaluate what we are doing in the context of the rapidly changing field of medical research, as well as an everchanging world. As we gain experience, we are increasingly confident that our circling takes us places she would want us to go, creating new and imaginative opportunities to seek medical knowledge of practical benefit to human life.

Folk singer Harry Chapin said in his signature ballad *Circle*, "There's no clear cut beginnings, and so far no dead ends." Those words ring true with regard to medical research and what we believe Ethel Donaghue envisioned when she wrote the Foundation into her will. Consider that the will expressly permits the spending of trust principal for "unusual" and "non-standard"

activities, presciently leaving it to her trustees to "do whatever they deem necessary or desirable" to further her purpose.

This is not to say that the Foundation does not have boundaries. Clearly, we do. To keep our work practically focused, we accept investigator-initiated research grant applications only from within Connecticut. In addition, we target research that promises recognizable benefit to the people of the Hartford area, the source of the Donaghue fortune. And we make a concerted effort to ensure that, where possible, our research benefits disadvantaged or under-studied populations that, we believe, would strike a particular chord with Miss Donaghue — for example, women, the elderly, alcoholics and the chronically depressed.

Within these boundaries, we seek to broaden our sphere of influence in the communities we serve, annually adding important new projects to the growing list of Donaghue Investigator, Practical Benefit Initiatives, and Clinical and Community Health programs we fund. And then we start the process all over again.

On that note, we return to our theme: the circle. One of the wonderful things about a circle is that no matter where you are on its circumference, you can look ahead or behind just as readily. The Foundation's ability to do that keeps what we do in the proper perspective. It enables us to build enthusiasm for what the future holds while benefiting from what we've done — and learned — so far.

As the Donaghue Foundation looks to its next ten-year cycle, we again ask: "What would Miss Donaghue do were she here today? What medical research and programs of practical benefit would she want us to support with the latest round of funding?"

We are confident that the answers to those questions can be found within the circles of talented and dedicated medical researchers represented by those featured in this, our ninth annual report of grant-making.

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#### The Year in Review

uring the year 2000 the Donaghue Foundation continued its forward progress searching for ways to put to productive work the research funds that Ethel Donaghue's beneficent vision placed in our care. Despite a slowing economy and stock market, our careful investment strategy enabled us to end the year with total assets of \$85,469,689, even after raising our level of overall grant-making to \$6,661,161, an increase of 14% over the prior year.

Both the DI and the C&CH grant programs continue to incorporate widening ranges of study topics we believe will advance our pursuit of practical benefit to human life.

Our investigator-initiated research programs accounted for about 56% of our total grants. We made four Donaghue Investigator awards, bringing our complement of Investigators to fifteen and our total invest-

ment in the three-year-old program to \$8,399,167. Our four 2000 recipients are featured later in this report. Our Clinical & Community Health program produced ten grants to researchers from five different institutions; we applied a total of \$2,141,013 to a variety of studies, \$712,172 for new projects and \$1,428,841 for continuing support of ongoing Donaghue-funded work. A sampling of our 2000 grants appears further on. Both the DI and the C&CH grant programs continue to incorpo-

rate widening ranges of study topics we believe will advance our pursuit of practical benefit to human life.

While our ongoing programs proceeded along, we were pleased to see six different and promising Practical Benefit Initiatives come to fruition, each after months of exploration and discussion. A neuroscience animal study conducted by Therese Kosten, PhD, at the Yale School of Medicine is investigating early life influences on addictive behavior, following up on an earlier Donaghue grant to Professors Joseph Bronzino and Priscilla Kehoe at Trinity College. We began an involvement in rehabilitation science by funding a project conducted by Geraldine Pellechia, PhD, at the University of Hartford. Her study is examining the interaction of cognitive and motor activity in patients undergoing rehabilitation.

The Foundation made a significant move in 2000 into the difficult but highly important area of human relationships in health care by negotiating a collaborative project with the Yale and UConn Schools of Nursing. Despite the best in objective knowledge, we often find that patient outcomes are limited by the very humanity of the patients, providers, families, and others involved in a complex process. The Program

























for the Study of Health Care Relationships, funded in July, is a focused prototype of a broader prospective program intended to improve both policy and practice in health care by pursuing a better understanding of the relational dimension of care. The funded prototype focuses on the role of relationships in adherence, the phenomenon whereby some patients do and some do not follow prescribed treatment plans. The collaborative project will test the effectiveness of a study selection method that includes diverse expert panels — including patients — to guide the project.

A major 2000 decision by the Trustees focused directly on patient care and injury prevention for a vulnerable Connecticut population. The Foundation funded a difficult but critically important quasi-experimental study, the Connecticut Collaborative Fall Prevention Project, which tackles a major health problem affecting the quality and very length of life of older people in Connecticut. The study will test the real world value of a fall prevention technique already proven effective under controlled conditions. This initiative, which involves collaboration by over thirty health organizations around Connecticut, could well foreshadow future Donaghue grants aimed at testing the practical utility of important scientific discoveries. You will find more detail on the Health Care Relationships and Collaborative Fall Prevention projects as you read further in this annual report.

As our year and decade came to a close, Donaghue also implemented our commitment to ethics in health research by funding a study of the ethical underpinnings and implications of the recent nationwide focus on patient safety. And we had a great chance to look back at one of our own funded projects and see it developing into a promising future for patient care. During a November site visit to the Easy Breathing Asthma study we heard dramatic results in the management of pediatric asthma and some early indications that the momentum generated with Donaghue research funds is

building. A follow-up grant from the Agency for Healthcare Research and Quality will take the study from clinics to private practice settings, and support is mounting for implementation of the Easy Breathing protocol across the state.

In December, our collaboration with the American Society of Law, Medicine and Ethics to study Connecticut pain management practices wound up its first phase with an illuminating day-long symposium at the Connecticut Hospital Association.

The presenters outlined baseline data produced by the investigators and involved clinicians in prioritizing responsive actions to improve pain care.

The signs of progress that we saw during 2000 are truly gratifying because they exemplify what Donaghue support should always try to do: promote practical benefit to the lives of Connecticut's people. Our first ten years were productive, and we entered 2001 with high hopes for even greater contributions to health in our second decade.

The signs of progress that we saw during 2000 are truly gratifying because they exemplify what Donaghue support should always try to do: promote practical benefit to the lives of Connecticut's people.

# REAL PEOPLE

## The human dimension

Should medical research be driven by scientific opportunity or human need? The answer, of course, is both. There is little question that ongoing human contact makes a difference when it comes to improving human health. And that, first and foremost, is what the Donaghue Foundation is all about.

hysicians measure success by outcomes. The human side of the health care experience — what patients and their families go through — is often overlooked, particularly when it comes to getting its fair share of rigorous scientific attention. The two research programs featured here aim to do something about that, driven by the conviction that human relationships are central to better care.

# REAL ISSUES

## PROGRAM FOR THE STUDY OF HEALTH CARE RELATIONSHIPS

Dedicated researchers at the Yale and University of Connecticut Schools of Nursing are collaborating on a prototype study of the complex relationships among patients, families, clinicians and providers under a \$2.8 million Practical Benefit Initiative grant. The "Program for the Study of Health Care Relationships" will examine how these relationships affect a patient's adherence to "doctor's orders," particularly

with regard to medication and changes in lifestyle. "Our emphasis on adherence provides a focus for understanding the nuances of these relationships, while addressing an area that has tremendous potential for improving patient outcomes," says Project Director Sally Cohen, RN, PhD, Associate Professor of Nursing at Yale.

To ensure that the program is a state-wide, multi-disciplinary endeavor, expert panels of health care professionals and consumers are being established at both Yale and UConn. Regina Cusson, RN, PhD, Professor of Nursing at UConn, will direct the Storrs program, while Professor of Nursing Judith Krauss, RN, MSN, will be Yale's site director.

Sally Cohen, RN, PhD,

Regina Cusson, RN, PhD

and Judith Krauss, RN, MSN

While the Yale/UConn collaboration centers on a non-traditional area of medical research — how human relationships affect health care — Cohen, Cusson and Krauss emphasize that it will be a scientifically rigorous endeavor. "Through the coordination of the individual studies we fund, we expect to gain tremendous insight in a field that is being recognized as the next frontier in improving patient care," says Cohen. Program deliverables will include the dissemination of findings and implementation strategies to consumers, as well as to health care professionals — a unique feature of this five-year initiative.

## EFFECTS OF MENTORING ON MATERNAL AND CHILD HEALTH

Young, inner-city mothers are at substantial risk of rapid childbearing, as well as serious parenting, health and interpersonal problems. Their children, in turn, often face significant health issues. Yale University School of Medicine Research Scientist Victoria Seitz, PhD, and her co-investigator, Professor of Pediatrics John M. Leventhal, MD, are using their Clinical and Community Health Issues grant to evaluate whether these young inner-city mothers — and their children — benefit over the long term from intensive mentoring by trained community volunteers at Yale-New Haven Hospital's Bright Beginnings program, as they have proven to do when nurses visit the mothers regularly.

Under the program, 200 single, young mothers-to-be will be randomly assigned to receive either Bright Beginnings mentoring or "standard care" until their children reach the age of one. When the children are two, the mothers will be evaluated with regard to rates of repeated pregnancy, depression, substance abuse, and parenting problems (abuse or neglect). The children will be assessed for language development and for their overall health, as measured by the timeliness of immunizations, occurrence of accidents and injuries, and whether visits to the emergency department have been appropriate.

"Bright Beginnings is built on the premise that communities can use one of their richest resources — caring individuals — in conjunction with the health care system to make lasting changes in the lives of impoverished young mothers," says Seitz. "If successful, the program could serve as a model for improving volunteer programs in inner-city areas in Connecticut and throughout the nation."



Victoria Seitz, PhD

# REAL PEOPLE

## Mothers and children

An investment in the well-being of expectant mothers and infants promises to pay healthy dividends for future generations — and the entire Greater Hartford community — for years to come.

hree research projects funded in 2000 under the Donaghue Foundation's Clinical and Community Health program are dedicated to generating critical information about major medical conditions and social problems affecting a category of people of utmost importance to the Foundation: mothers and children.

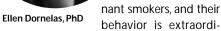
# REAL ISSUES

## COMPREHENSIVE TREATMENT FOR LOW-INCOME PREGNANT SMOKERS

Smoking among low-income pregnant women increases the risk of premature delivery, low birth weight and infant death, as well as respiratory problems in mother and child. Hartford Hospital Senior Scientist Ellen Dornelas, PhD, hopes to help address this public health problem through a counseling intervention developed by colleagues at the hospital and the University of Connecticut Health Center. "Women who are poor and uneducated typically lack access to effective smoking cessation treatment despite having high smoking rates during pregnancy," says Dornelas. "Our study will determine whether treatment by a smoking cessation counselor in a prenatal clinic is more effective than advice from the health care provider." The intervention's cost effectiveness also will be evaluated.

Dornelas notes that some pregnant women are able to stop smoking — only

to restart after giving birth — while others are unable to stop or even cut back when they are pregnant. "Since there are no FDA-approved medications to treat pregnant smokers, and their



narily complex, we view the development of more sophisticated psychological interventions as the most promising treatment."

At the end of the three-year Clinical and Community Health program study, Dornelas' multi-disciplinary team — which includes a health economist, obstetrician, tobacco researcher and psychotherapy researcher — expects to know whether counselor intervention improves the likelihood that pregnant women will continue to abstain from smoking after their babies are born. If it does, Dornelas hopes that obstetricians will be able to quickly translate the research findings into practice.

## BLOOD PRESSURE MEASUREMENT DURING PREGNANCY

Hypertension is a significant problem during pregnancy. Some pregnant women with high blood pressure develop preeclampsia, a condition that can lead to serious maternal complications just before or during delivery, including seizures, severe hypertension, kidney and heart disorders, and death. With their Clinical and Community Health program grant, William White, MD, Professor of

Internal Medicine at the University of Connecticut Health Center, and Deborah Feldman, MD, Instructor in Internal-Fetal Medicine, will attempt to identify the best means to diagnose hyperten-



sion during various stages of pregnancy.

According to White, the accuracy of blood pressure measurements taken in the doctor's office has come under scrutiny due to poor techniques, human error and "white-coat hypertension" on the part of the patient. He hypothesizes that "out-ofoffice" blood pressure measurement methods — such as self- and ambulatory monitoring — will be "superior" when it comes to "detecting true hypertension in pregnant women...and in forecasting the development of preeclampsia." During White's three-year study, more than 100 pregnant women will be evaluated, with office, self (home) and 24-hour blood pressure measurements performed during the second and third trimesters of pregnancy.

White and Feldman are excited by the prospect that their research team may be able to fine-tune the diagnosis of hypertension during pregnancy and avoid unnecessary testing and/or hospitalization for pregnant women. "We hope to develop a new standard of evaluation of hypertension during pregnancy with home and/or ambulatory blood pressure monitoring," says White, "and to possibly alter the treatment of hypertension during pregnancy."

## MEASURING AUDITORY INTEGRITY IN INFANTS

A significant number of babies are born with hearing loss. Undiagnosed, these auditory problems have the potential to retard speech and language development, as well as learning in general. Gerald Leonard, MD, Professor and Chief of Otolaryngology/Head and Neck Surgery at the University of Connecticut Health Center, hopes that his team's research will help define a "non-invasive, quick, safe, and frequency-specific method" of testing hearing in newborns and infants. "With such early diagnosis," says Leonard, "clinical interventions, including amplification via hearing aids and appropriate audiological rehabilitation, can be initiated."

Leonard's research team, supported by

both Donaghue and Hartford Hospital research funds, will study two non-invasive measures of the integrity of the auditory system in infants. Three populations will be examined: infants who failed



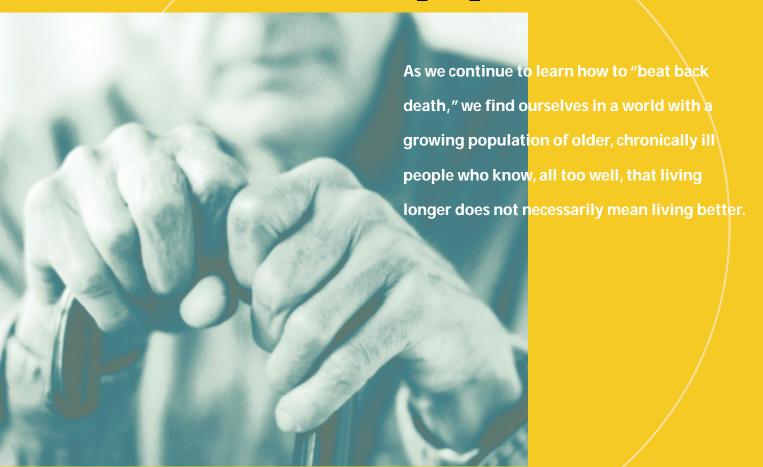
Gerald Leonard, MD

state-mandated screening, infants defined as being at high risk, and normal infants who will serve as controls. Hearing measurements will be made at birth and at several successive intervals.

Leonard anticipates that his Clinical and Community Health program grant will enable his team to learn enough about the non-invasive testing of newborns and infants to recommend screening procedures that will not only identify children with potential auditory deficits, but also provide information as to whether the difficulties are peripheral (in the ear) or central (in the brain). Procedures will be modified on an ongoing basis with the goal of making them efficient instruments for future screening protocols. "We are hopeful that effective, early intervention will provide meaningful and long-term benefits to these children and their families," says Leonard.

# REAL PEOPLE

# Older people



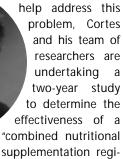
significant portion of Donaghue Foundation funding granted in the year 2000 is aimed at keeping older people on their feet — and on their toes — for increasingly longer periods of time. Here are just a few of the talented researchers whose work is dedicated to addressing the "long-term problem of long-term problems."

# REAL ISSUES

#### **EXERCISE AND PROTEIN** SUPPLEMENTATION IN HEART FAILURE **PATIENTS**

According to Charles Cortes, PhD, Senior Scientist, Preventive Cardiology, at Hartford Hospital, "Heart failure is the only admissions diagnosis that is increasing with each passing year," placing a huge burden on the

health care system. To



Charles Cortes, PhD

men and high intensity resistive exercise program" in patients with advanced heart failure.

Three groups of patients will be evaluated under Cortes' study: those receiving nutritional supplementation and strength exercises, a nutrition-only group, and an exercise-only group. "We expect that the combined nutritional and exercise group will be superior," says Cortes.

While delaying the need for heart transplantation is a major objective of his research, Cortes also is focusing on helping heart failure patients successfully recover from highly stressful heart transplant surgery — surgery that often leads to shortterm disabilities. "We hope that our research will provide benefit in terms of strengthening the muscles of limbs that are so commonly affected by this disease," says Cortes, noting that such strengthening should result in "a functional increase in daily living activities."

Cortes expects his research, which is being funded under a Clinical and Community Health grant, "to set a new standard of care that enables heart transplant recipients to enter a medically supervised regimen of reconditioning — before this life-saving operation. By doing so, we can reduce the degree of disability and, hopefully, the length of hospital stays."

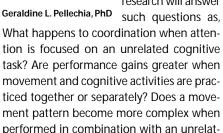
#### INFLUENCE OF COGNITIVE ACTIVITY ON COORDINATION DYNAMICS

The ability to control and coordinate body movements while engaged in an unrelated cognitive activity — such as reading a shopping list while strolling in the grocery store — declines as people age, thus requiring that more attention be directed to such fundamental skills as balancing and walking. With her Practical Benefit Initiatives grant, Geraldine L. Pellecchia, PhD, PT, Assistant Professor of Physical Therapy at the University of Hartford, will identify the factors that play the most important roles in "dual-task performance," with the goal of identifying training strategies to improve this basic life skill.

"In recent research, we showed that movement becomes less coordinated when one is involved in a concurrent cognitive task," says Pellecchia. "This will help us

> develop appropriate dual-task training





ed cognitive task?

"Traditionally, rehabilitation programs for people with movement disorders have focused exclusively on retraining movement, ignoring the ability to simultaneously perform a cognitive activity," says Pellecchia. "To achieve optimal levels of safety and function, rehabilitation specialists may need to incorporate dual-task training into treatment programs. My research is a first step toward understanding the proper role of dual-task training in rehabilitation."

#### CONNECTICUT COLLABORATIVE FALL PREVENTION PROJECT

Falls and fall-related injuries are the most common preventable cause of functional decline and nursing home placement among older persons in Connecticut. Yet, little attention has been given to their prevention, largely because of the prevailing myth that falls are usually unavoidable. With their Practical Benefit Initiatives grant, Mary E. Tinetti, MD, Professor of Medicine and Epidemiology and Public Health at Yale University School of Medicine, and her colleague, Dorothy I. Baker, PhD, Research

Scientist, Epidemiology and Public Health, aim to prove oth-

erwise.

**Under Tinetti** and Baker's fall prevention program, the rates of falls resulting in emergency department visits and/or hospitalization will be compared among two groups of



Baker, PhD

people 70+ years old — some receiving the Yale researchers' already successful interventions and some receiving the "usual" care. An evaluation of the program's outcomes is expected to determine what specific fall prevention interventions can be most successfully and cost-effectively incorporated into clinical practice on a statewide basis. "Our fall prevention strategies are practical in that they give people the information and power to help themselves," says Baker, who emphasizes that the interventions are also "scientifically sound."

According to Tinetti, clinicians working in a variety of settings have offered creative ideas as to how to take fall prevention "out of the lab" and make it an integral part of the health care system. "Given the widespread input of the Connecticut health care community, this project has the potential to make fall prevention an everyday part of the care provided to older persons."

# REAL ISSUES

# Donaghue Investigators

While the research they do may seem highly esoteric—
even unreal — at times. Donaghue Investigators are,
first and foremost, real people helping real people.

ach year, the Donaghue Investigator program supports several particularly promising Connecticut researchers, with a goal of increasing useful knowledge across a wide range of issues. Donaghue Investigators selected during 2000 will undertake five-year research programs on topics as familiar as problem gambling and as unfamiliar — but vitally important — as the motor-cargo phenomenon within body cells.

## REAL PEOPLE

#### SANDRA J. HEWETT, PHD

Sandra Hewett, PhD

Sandra Hewett, PhD, Assistant Professor of Neuroscience at the University of Connecticut Health Center, is studying the mechanisms of inflammatory central nervous system (CNS) injury in an effort to determine the causes of brain damage following a stroke and in multiple sclerosis. "Evidence from our lab suggests that these inflammatory factors may contribute to CNS injury in both illnesses," says Hewett.

According to Hewett, standard therapy aimed at supporting cardiovascular and respiratory function is ineffective in preventing brain infarction. "The only FDA-approved drug for the treatment of acute stroke...must be given within three hours of the onset of symptoms," she says. "It is imperative that therapies be developed which have the ability to reduce the vulnerability of brain tissue to the loss of blood flow

Over the next five years, Donaghue funding will support projects that will build on Hewett's research with regard to stroke — the most common cause of adult disability in the United States and the third leading cause of death — and MS. She believes her multidisciplinary laboratory, which will utilize in vitro and in vivo model systems, is poised to make substantial advances in the area of inflammatory brain injury advances that could lead to the development of effective new neuroprotective therapies. "While a potent neuroprotective drug will not effect a cure, it could mean the difference between someone being confined to a wheelchair and someone who can walk using a cane," says Hewett.

when given in a delayed fashion."

#### STEPHEN M. KING, PHD

Stephen M. King, PhD, Associate Professor of Biochemistry at the University of Connecticut Health Center, is studying the highly complex function of molecular motors that power male fertility, cell division, and many other cellular activities — activities that, when disrupted, lead to serious diseases and conditions, including cancer, infertility and blindness.

"The action of molecular motors is essential for a wide array of fundamental cellular activities," says King. "These enzymes generate force along linear tracks within the cell, causing the movement of the attached cargo to specific cellular locations. The enzymes must be precisely controlled so that the cargo is transported to the correct location at the appropriate time. When these regulatory processes fail, the consequences can be devastating."

During the course of his research, King expects to identify the mechanisms that control the attachment of molecular motors to individual cellular cargoes. "This has the potential to integrate many areas of cell biology," he says. "For example, viruses replicate their nucleic acid within the nucleus. We now realize, however, that these viruses need to utilize the host cell motility system to actually reach the nucleus, replicate and spread the infection. Understanding how viruses interact with the motile machinery could provide a novel therapeutic target."

King expects his research to lead to "a more precise and global understanding of the many essential roles played by intracellular motility in normal cell development," as well as in the development of disease. "I expect our work to lay the background for this type of analysis."



Stephen King, PhD

# REAL PEOPLE

#### ISHITA MUKERJI, PHD

With her Donaghue Foundation grant, Ishita Mukerji, PhD, Assistant Professor of Molecular Biology and Biochemistry at Wesleyan University, will continue to research the mechanism of sickle cell disease — the most common inherited blood condition in America. "Although it has been known for years that sickle cell disease arises from a single mutation in the hemoglobin protein, the mechanism of fiber formation is not well understood," says Mukerji.

"Understanding that process will help us determine how proteins associate to form larger structures," which, she adds, "impede circulation and result in sickle cell crisis."

Mukerji is especially excited by the prospect of being able to monitor fiber formation — as it occurs. "Understanding the initial stages of the process and the forces leading to the production of the fiber-forming nucleus will bring us closer to the root of the disease."

Because other diseases, such as Mad Cow and Alzheimer's, are a "consequence of the self-assembly of proteins into fibrils and other non-functional forms," one of Mukerji's broad goals is to use sickle cell disease as a model for understanding the association of proteins in general. "We plan to continually improve our methodology," she says, "so that the same techniques and strategies can be applied to the study of other diseases associated with problems in protein assembly."

Over the next five years, Mukerji expects to enhance her understanding of sickle cell disease so that more effective therapeutic agents can be developed. "Ultimately, this research could lead to the design of more effective anti-sickling drugs."

#### **NANCY PETRY, PHD**

Gambling is a major public health concern in Connecticut, yet little effort has been devoted to identifying and reducing gambling problems, even among high-risk populations. In an effort to identify how to better address this growing problem, Nancy Petry, PhD, Assistant Professor of Psychiatry at the University of Connecticut Health Center, will test and study the effectiveness of brief interventions among several hundred Connecticut residents identified as "problem gamblers."

Petry's research is unique in that it will test interventions among people who gamble frequently, but are not considered compulsive or pathological. "This is a population that has attracted very little research attention thus far and for whom treatment is almost non-existent," says Petry. "Not a single study has evaluated treatments for problem gamblers below the diagnosis of pathological gambling."

Petry's work promises to add important information to the body of research on this understudied population. "Problem gamblers, like problem drinkers, experience many difficulties," she says, "including depression, anxiety and loneliness," all of which can contribute to high rates of divorce, poor on-the-job performance and absenteeism, and financial difficulties. "Problem gambling that persists may lead to pathological gambling," adds Petry, "a condition associated with significant financial, legal, psychological and social consequences."

Results from Petry's five-year study are likely to guide future screening, treatment, and research initiatives. "The data will demonstrate whether brief treatments are effective," says Petry, "and whether more intensive interventions are needed to reduce gambling problems, especially among more impaired gamblers."



Nancy Petry, PhD

Ishita Mukerji, PhD

#### FOUNDATION PROGRAMS



The Donaghue Foundation conducts several programs and initiatives in support of Connecticut-focused research and related work. Interested persons should contact the Director of Operations 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 \$180,000 over periods of one to three years. Applications are invited after scientific and policy review of statements 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. Annually, about four awards of \$100,000 per year, for up to five years, are made.

#### PRACTICAL BENEFIT INITIATIVES:

PBI programs have 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.

#### **NEW 2000 AWARDS**

### RESEARCH IN CLINICAL AND COMMUNITY HEALTH ISSUES

#### Charles Cortes, PhD

Hartford Hospital Exercise and protein supplementation in heart failure pathogenesis

#### Ellen Dornelas, PhD

Hartford Hospital Comprehensive treatment for low-income pregnant smokers

#### Caroline Easton, PhD

Yale School of Medicine Substance abuse/domestic violence treatment outcome study

#### Ralph Hoffman, MD

Yale School of Medicine Transcranial magnetic stimulation and hallucinated voices

#### Gerald Leonard, MD

University of Connecticut Health Center Non-invasive measures of auditory integrity in infants

#### Cheryl Oncken, MD, MPH

University of Connecticut Health Center Effects of nicotine on bone turnover in older women

#### Lois Sadler, RN, PhD

Yale School of Nursing Intensive care for teens with negative pregnancy tests

#### Juan Salazar, MD, MPH

Connecticut Children's Medical Center Erythema migrans-window to Lyme Disease pathogenesis

#### Victoria Seitz, PhD

Yale School of Medicine Effects of a mentoring program on maternal & child health

#### William White, MD

University of Connecticut Health Center Blood pressure measurement during pregnancy

#### DONAGHUE INVESTIGATOR PROGRAM

#### Sandra Hewett, PhD

University of Connecticut Health Center Mechanisms of inflammatory central nervous system injury

#### Stephen King, PhD

University of Connecticut Health Center Intracellular transport and the regulation of molecular motor-cargo interactions

#### Ishita Mukerji, PhD

Wesleyan University
Structural studies of sickle cell hemoglobin fibers

#### Nancy Petry, PhD

University of Connecticut Health Center Brief interventions for problem gamblers

#### PRACTICAL BENEFIT INITIATIVES

#### Therese Kosten, PhD

Yale School of Medicine Early life stress and cocaine abuse in male and female rats

#### Virginia Ashby Sharpe, PhD

The Hastings Center Promoting Patient Safety: An Ethical Basis for Policy Determination

#### Sally Cohen, RN, PhD

Yale School of Nursing

#### Judith Krauss, RN, MSN

Yale School of Nursing

#### Regina Cusson, RN, PhD

University of Connecticut School of Nursing Program for the Study of Health Care Relationships

#### Howard Bailit, DMD, PhD

University of Connecticut Health Center

#### Mary Duncan, PhD

University of Connecticut Health Center Public-Private Alliance Study: Domestic Violence

#### Mary Tinetti, MD

Yale School of Medicine

#### Dorothy Baker, PhD

Yale School of Medicine CT Collaborative Fall Prevention Project

#### Geraldine Pellecchia, PhD

University of Hartford Influence of cognitive activity on coordination dynamics

#### **CONTINUATION AWARDS**

#### DONAGHUE INVESTIGATOR PROGRAM

#### Carlos Grilo, PhD

Yale University School of Medicine
Psychiatry: Treatment of binge eating and obesity

#### Stephen Devoto, PhD

Wesleyan University Developmental Biology: Study of muscle cell development in vertebrates using zebra fish

#### Mark B. Gerstein, PhD

Yale University Genetics: Analysis of gene sequences and protein structures

#### Stephen Helfand, MD

University of Connecticut Health Center Geriatrics: Molecular genetics of aging

#### Sharon K. Inouye, MD, MPH

Yale University School of Medicine Geriatrics: Delirium and functional decline in hospitalized older persons

#### Zeev Kain, MD

Yale University School of Medicine Pediatrics: Anxiety in children undergoing surgery

#### Eric Pamer, MD

Yale University School of Medicine Immunobiology: Immunity to Epstein-Barr virus following bone marrow stem cell transplantation

#### David Rimm, MD, PhD

Yale University School of Medicine Cancer: Adhesion protein expression as mechanism to predict metastasis

#### Scott Rivkees, MD

Yale University School of Medicine Pediatrics: Prevention of brain injury in premature infants

#### Stephen Strittmatter, MD, PhD

Yale University School of Medicine Neurology: Axonal regeneration after spinal cord injury

#### Joann Sweasy, PhD

Yale University School of Medicine Genetics: Understanding how mutations occur during meiosis



### RESEARCH IN CLINICAL AND COMMUNITY HEALTH ISSUES

#### Walid Abi-Saab, MD

Yale University School of Medicine Neuroleptics on cortical glutomate in schizophrenia

#### Tryfon Beazoglou, PhD

University of Connecticut Health Center Improving prenatal screening protocols

#### Cheryl Tatano Beck, DNSc

University of Connecticut School of Nursing Screening Hispanic mothers for postpartum depression

#### Sandra Bellantonio, MD

University of Connecticut Health Center Quality care for assisted living persons living with dementia

#### Robert Berman, MD

Yale University School of Medicine Transcranial magnetic stimulation in refractory depression

#### Debra Bessen, PhD

Yale University School of Medicine Immunological alterations in neuropsychiatric disease

#### Elizabeth Bradley, PhD

Yale University School of Medicine Minority elders and long-term care: use and access

#### Janet Brandsma, PhD

Yale University School of Medicine Novel HPV probes to improve cervical cancer

#### Thomas Carpenter, MD

Yale University School of Medicine Effects of magnesium nutrition on bone health

#### Susan Cohen, DNSc

Yale University School of Nursing Perimenopausal symptom management with acupuncture

#### John Concato, MD, MPH

Yale University School of Medicine New clinical anatomic staging system for prostate cancer

#### Jonathan Covault, MD, PhD

University of Connecticut Health Center Markers of biological risk in schizophrenia

#### Anne Delany, PhD

St. Francis Hospital and Medical Center Association of osteonectin mutations with osteoporosis

#### Peter DeLuca, MD Sylvia Ounpuu, MSc

Connecticut Children's Medical Center 10-year follow-up of orthopedic surgery in Cerebral Palsy

#### C. Neill Epperson, MD

Yale University School of Medicine
The role of GABA in postpartum depression

#### Thomas Gill, MD

Yale University School of Medicine Intervening events and functional decline in older persons

#### Gloria Gronowicz, PhD

University of Connecticut Health Center Effect of aging on human bone cell/implant interactions

#### Jasminka Ilich, PhD

University of Connecticut Sodium intake and bone mass in postmenopausal women

#### Beth Anne Jones, PhD, MPH

Yale University School of Medicine Mammographic patterns in African American & White women in CT

#### Song Lai, PhD

University of Connecticut Health Center Improved stroke outcome using quantitative functional MRI

#### Carol Lammi-Keefe, PhD

University of Connecticut Pregnancy with diabetes: infant neurobehavior

#### Robert Malison, MD

Yale University School of Medicine Ketoconazole antagonism of cocaine-induced euphoria

#### Patricia Neafsey, PhD

University of Connecticut School of Nursing Preventing drug interactions in older adults

#### Gerald Sanacora, MD, PhD

Yale University School of Medicine Cortical GABA concentrations in depression

#### Eva Sapi, PhD

Yale University School of Medicine A novel model system for the development of ovarian carcinoma

#### David Schonfeld, MD

Yale University School of Medicine Comprehensive elementary school cancer prevention

#### Francisco Sylvester, MD

St. Francis Hospital & Medical Center Crohn's disease and osteopenia

#### Pamela Taxel, MD

University of Connecticut Health Center Effect of estrogen therapy on men with prostate cancer

#### Paul Thompson, MD

Hartford Hospital

Effect of E Genotype on lipid response to exercise

#### Marietta Vazquez, MD

Yale University School of Medicine
Efficacy of Lyme vaccine in clinical practice

#### PRACTICAL BENEFIT INITIATIVES

#### Howard Bailit, DMD, PhD

University of Connecticut Health Center

#### Michelle Cloutier, MD

Connecticut Children's Medical Center Public-Private Alliance Study: Easy Breathing (Asthma)

#### Howard Bailit, DMD, PhD

University of Connecticut Health Center

#### Thomas Babor, PhD, MPH

University of Connecticut Health Center Public-Private Alliance Study: Vital Signs (Substance Abuse)

#### Benjamin Moulton, JD, MPH

American Society of Law, Medicine, Ethics

#### Diane Hoffman, JD, MPH

University of Maryland Connecticut Statewide Pain Management Study

#### Carolyn Mazure, PhD

Yale University School of Medicine Ethel Donaghue Women's Health Investigator Program

#### Joseph Bronzino, PhD

Trinity College BEACON

#### Robert Peattie, PhD

Trinity College Patient-based investigation of aortic aneurysm mechanics

#### Steven Goodman, PhD

University of Connecticut Health Center Nanofabrication for cardiovascular tissue engineering

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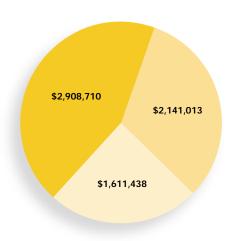


#### **GRANTS IN 2000**

Institution	New	Continuation	Total
American Society of Law, Medicine			
& Ethics	0	1	1
Connecticut Children's Medical Cente	er 1	1	2
Hartford Hospital	2	1	3
The Hastings Center	1	0	1
St. Francis Hospital & Medical Center	0	2	2
Trinity College	0	1	1
University of Connecticut Health			
Center	7	9	16
University of Connecticut/Storrs	0	2	2
University of CT School of Nursing	0	2	2
University of Hartford	1	0	1
Wesleyan University	1	1	2
Yale University	0	1	1
Yale School of Medicine	5	24	29
Yale School of Nursing	1	1	2
Total	19	46	65

### FUNDS AWARDED BY GRANT PROGRAM FOR GRANT CYCLE BEGINNING IN 2000

Research in Clinical & Community Health Issues New (10) Continuing (30)	Total \$ 712,172 \$1,428,841
Donaghue Investigator Program	<b>Total</b>
New (4)	\$ 440,000
Renewal (11)	\$1,171,438
Practical Benefit Initiatives	<b>Total</b>
New (6)	\$1,295,985
Continuing (4)	\$1,612,725
Total	\$6,661,161



## FUNDS AWARDED BY GRANT PROGRAM FOR GRANT CYCLE BEGINNING IN 2000: \$6,661,161

Clinical & Community Health:	\$2,141,013
Donaghue Investigator Program:	\$1,611,438
Practical Benefit Initiatives:	\$2,908,710



#### 2000 FINANCIAL INFORMATION

Income (interest, dividends)

#### Statement of assets and fund balance as of December 31, 2000

Investment in marketable securities	\$79,431,000
Cash, cash equivalents, and other assets	\$ 6,038,689
Total assets and fund balance	\$85,469,689

## Statement of income and expenditures for the twelve months ended December 31, 2000

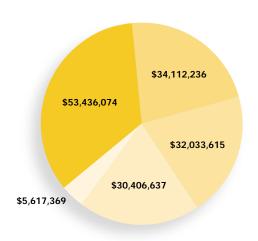
\$ 3,430,726

Expenditures Program: Grants	
Clinical and Community Health Issues Donaghue Investigator Practical Benefit Initiatives Subtotal	\$2,141,013 <sup>1</sup> \$1,611,438 \$2,908,710 \$6,661,161
Program Support	\$ 235,479
Management and General	\$ 386,301
Investment Management	\$ 123,686
Total Expenditures	\$7,406,6272

Note 1: Included in this figure is \$115,423 the Foundation facilitated in grants to medical research from other foundations or philanthropic sources.

Note 2: In addition to these expenditures, an estimated amount of up to \$30,087,500 has been earmarked for future spending in support of ongoing grants.

The figures listed above are unaudited. Fair market values are approximate.



## TOTAL DOLLARS COMMITTED BY DONAGHUE AS OF DECEMBER 31, 2000: \$155,605,931

Original value of Ethel	
Donaghue's gift:	\$53,436,074
Appreciation in value of gift:	\$32,033,615
Income earned on funds:	\$30,406,637
Expenses	\$ 5,617,369
Grants	\$34,112,236



#### 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 does not seek additional funds itself unless 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. We have included information about Leave a Legacy Connecticut with this annual report.

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