
WORDS MATTER.

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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.

From Article Fourteenth of The Will of Ethel F. Donaghue (1896-1989)

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Trustees' Vision

We shall be an exemplary philanthropic participant in the ongoing conduct and continuing advancement of useful health research across the spectrum of health institutions and organizations in Connecticut.

Trustees' Mission

To benefit human life and the individual lives of people as an active and collaborative supporter of useful health research in Connecticut — and thereby to honor the memory of Ethel Donaghue and her family.

Our Goals

Fiduciary Duty

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

Grantmaking

We will develop and manage, with appropriate counsel of experts, a flexible and well-rounded program of grant-making initiatives that

- (a) reflects our Connecticut roots, the Hartford derivation of the Donaghue fortune, and the current needs of the people of Hartford, Greater Hartford, and Connecticut;
- (b) effectively uses, and contributes to the development of, our statewide talent in medical research;
- (c) fosters teamwork among investigators and clinicians (individual and institutional), both horizontally and vertically throughout our complement of research resources, in addressing issues affecting health;
- (d) exhibits constant alertness to opportunities or needs for responsive focusing of our resources upon targets of importance, with particular thought to those which, but for our involvement, might find inadequate financial support;
- (e) constantly strives for a thoughtful balance between the pursuit of new knowledge and its transition into useful knowledge; between the gaining of knowledge and the pursuit of the wisdom to temper our use of it for practical benefit to human life;
- (f) promotes widespread public awareness of research activities and accomplishments and an appreciation of the value of steady and continued support of skilled inquiry into unsolved problems affecting health.

Community Responsibility

We will play an active and constructive part in the realm of substantial philanthropic organizations in Connecticut, seeking generally to advance synergy in the collective activities of all organizations pursuing the public interest and particularly 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.



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

Raymond S. Andrews, Jr., Trustee

Letters from the Trustees

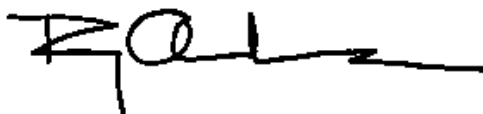
As reflected in the Donaghue Foundation's stated goals, words necessarily matter a great deal to one carrying out a trust shaped by the precise words of a will. A moment's pause on the simple "and/or" in Miss Donaghue's purpose clause gives mute evidence of the challenges words pose for us and our mission.

Words matter to Donaghue because they matter importantly across the spectrum of health and health research. Despite all our charts and graphs and statistics, people communicate — or fail to — in words. No one wants to be "just a number" — numbers can never completely describe us. In our search for answers to health puzzles, numbers undoubtedly count, but it's really the words that matter in the end. When we plumb the depth of words for their meanings, we often come up with different results, even about pretty fundamental things. To illustrate this, our 1999 report features a center spread about our prime target: health itself.

In prior years' reports, we've used the imagery of words to set our themes: bridge (overcome obstacles and make connections), map (discern and navigate), tugboat (work and persevere), mosaic (assemble and integrate). This year, we step back and bring into focus the whole field of words, to highlight their importance in our work and in our future, as we strive to convert data, first into information, then into knowledge and, ultimately, into wisdom.

A few key words act as route markers along the path of our report on 1999. Donaghue's future will highlight many words that belong in the forefront of our work: care relationships, patient safety, chronic conditions, mental health, lifestyle, prevention, and human behavior itself.

That's it, in a word.

A handwritten signature in black ink, appearing to read "R. Andrews, Jr.", with a stylized, flowing script.

Raymond S. Andrews, Jr.
Trustee

The Foundation established hereunder is created and shall

Sheilah B. Rostow, Vice President, Fleet Bank, Trustee

It is sometimes difficult to separate one “Donaghue” year from another. So much of what the Foundation does overlaps the calendar. Projects begun in one year may not be actualities until way into the next and others that are nearing fruition get redesigned and reconfigured, requiring more thought before going into production. And yet, when I step back and look at 1999 as a whole, it is clear that a lot got done.

More than \$5.7 million in grants was paid out during the year. This is an astonishing amount for a Foundation with only two staff members and two trustees. None of these grants was routine, all required research and discussion and effort before reaching the final state that we could fund. The constant and able help of the Scientific and Policy Advisory Committees, the reviewers and expert panels that assist the Foundation in thoughtful grant-making, cannot be underestimated. These committed professionals from the medical and lay communities are critical to our continued success.

Some of the highlights of 1999: the Clinical and Community Health Program awarded sixteen grants. The Donaghue Investigator Program went into its second year slightly modified, twelve finalists were selected for interviews, and five Investigators were named. The Donaghue Women’s Health Investigator Program and the Private-Public Alliance for Prevention - Asthma Study both continued into their second year with excellent progress. Several new Targets of Research Opportunity grants were awarded in the areas of substance abuse, domestic violence and biomedical engineering, and Phase 1 of the Connecticut Statewide Pain Management Study was begun in 1999. There are more than a dozen projects in the discussion stages, covering a wide field of human health research.

Details of our programs and projects can be found in this annual report. We hope you will read it with interest and let us know what you think. We are proud of the Foundation’s accomplishments in 1999 and we look forward to continuing what we have started this year and to bringing more innovative and useful research to culmination in 2000.



Sheilah B. Rostow
Vice President, Fleet Bank
Trustee



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

be operated solely for the purpose of providing financial

Legacy

(n.) a bequest; a gift handed down to others, especially in a will.

Purpose and Prologue

Fifty-one words define the legacy of Ethel F. Donaghue (1896-1989) and chart the course of The Patrick and Catherine Weldon Donaghue Medical Research Foundation. Those words make up one sentence in Article Fourteenth of Miss Donaghue's Will. They spell out the Foundation's purpose and frame the mission and work of all those who make the Foundation work. In capsule form they say to the Foundation's Trustees, "Seek out useful health knowledge." Other words in Article Fourteenth convey a further message: "Use your imagination to put to active use as much of my money as you see fit."

For eight years the Donaghue Foundation has been giving meaning to the beneficent vision of Miss Donaghue, who died amid great material wealth after living alone for more than thirty years, without the richness of a close family. A long, sad history of family health problems no doubt triggered Miss Donaghue's commitment to the support of health research, and she created the Foundation in her will as an enduring way to benefit people while honoring the memory of her parents.

The Foundation is a charitable trust, and the Trustees' duty is to carry out Miss Donaghue's wishes. Against an ever-changing backdrop of facts, we seek to apply the millions entrusted to us in an ongoing search for useful health knowledge. In our determination to create and sustain the best possible expression of Miss Donaghue's intent in establishing the Foundation, the Trustees have studied every word of her purpose clause, in order to ground our discretion in a solid understanding of their essential meanings. Miss Donaghue was a lawyer back in the 1920s, so we take for granted that she knew how to use words, and we know from records that she was a very direct and practical woman. She liked to get things done during her lifetime. We will get things done for human health throughout the life of her legacy, the Donaghue Foundation.

assistance for research in the fields of cancer and heart



There is a legal truism about interpreting wills and ascertaining intent: “It’s not what she meant to say; it’s what she said she meant.” The character of the Foundation was shaped by the words of Miss Donaghue’s will. When she included provisions establishing a strong individual trustee position, permitting the spending of trust principal, authorizing “unusual” and “non-standard” activities, and generally leaving it to her Trustees to “do whatever they deem necessary or desirable” within the bounds of her overall intent, she set the Foundation on a course of creative deployment of research funds. As a nimble structure with a challenging purpose and no mandate to accommodate special interests, the Foundation is poised for bold and imaginative action.

Miss Donaghue’s words alone cannot guide the Trustees unerringly, because those words cannot hold all the answers to the questions that appear. Miss Donaghue herself knew this and planned for her Trustees to fill in some blanks. We have acted by adopting policies consistent with her will but not mandated by it. For example, we accept investigator-initiated research grant applications only from within Connecticut to give our work a practical scope and focus. In addition, we seek to identify research that promises real benefit to the people of the Hartford

area, which was the source of the Donaghue fortune, and we seek ways to benefit disadvantaged or understudied populations because the Foundation is charitable in nature.

Health is an oddly elusive concept. While Miss Donaghue seemed to enjoy a lifestyle enriched by her substantial fortune and station in life, there was actually much about her life that was unhealthy. Distressed as she was by loneliness and family misfortune amid her millions, she never saw the realization of her own potential for good. The world, though, will see it through her enduring legacy.

disease and/or other medical research to promote

Report

(v.) to give an account of, especially formally.

(n.) something intended to bring back the past; may be highly descriptive and dramatic.

Summary of the Year's Work

A report on the Foundation's activities in 1999 must be a mixture of progress and promise. We successfully operated our ongoing programs while we pursued important explorations of initiatives that would wait for later to appear. The net result of our efforts was the awarding of grants totaling more than \$5.7 million across a wide spectrum of research work.

The Donaghue Investigator Program completed its second year of a ten-year plan, and \$550,000 in grants brought five more talented Connecticut researchers into our growing complement. Their research programs encompass the molecular genetics of aging, the prevention of brain injury in premature infants, the treatment of obesity, the understanding of mutations in meiosis, and antiviral immunity in transplant patients. The Clinical & Community Health Issues Program, in its revised, more practical format of \$180,000 grants over a period up to three years, attracted 75 applications from fourteen different institutions. Sixteen grants totaling just over a million dollars were made. Our ongoing partnership with the Hartford Foundation for Public Giving enabled it to add \$89,000 to the funding of medical research approved by our review process.

In the belief that discovery often involves seeing the same things but with new eyes, the Foundation initiated an experiment in funding biomedical engineers' efforts to improve human health. Persuaded that great potential for benefit lies in the areas of biomechanics, biosensors, and biomaterials, we worked with the Biomedical Engineering Alliance of Connecticut (BEACON) to identify two promising studies for funding. If our study of the field proves it to be a suitable target for sustained Donaghue effort, we expect to pursue development of an ongoing grant program in future years.

medical knowledge which will be of practical benefit to the



In early 1999, the Hastings Center study of priority setting in medical research concluded in two-pronged fashion, with a public presentation of conclusions by Daniel Callahan at a conference in Hartford and an informal session for Trustees and advisers focused specifically on the possibilities for Donaghue. An outgrowth of our work with the Hastings Center was a focused exploration of a Foundation commitment to ethics as a field of research support, and the Trustees decided to include in our work plan for 2000 the development of an ethics theme integrated into the Foundation's programs.

Two other 1999 explorations are ongoing and may see daylight in 2000. For a few years, the Trustees have been examining patient safety because the Trustees are committed to making health care a safer passage for people traversing our technically complex system. The summer of 1999 saw the first invited proposal, just a few months before the public's attention was riveted on the topic by the widely publicized Institute of Medicine report, *To Err is Human*. As part of integrating ethics into our work, we invited a parallel proposal to study the ethical implications of medical error responses.

A second exploration probed the possibilities of a Connecticut-based center of research effort in understanding and improving human relationships that affect patient care. As with patient safety, the subject of respect for patients as people is of vital importance

as the ironic tyranny of technology and the despotism of payment mechanisms vie with the human compassion that belongs at the center of health care. The prototype we are considering will be focused on human communication and behavior, a new direction for us into the exploration of words as valid currency in the art and science of improving health.

The Private-Public Alliance for Prevention was fleshed out during 1999, as our initial asthma study was joined by two more multi-year Foundation grants. Donaghue is now supporting studies of substance abuse interventions and prevention of domestic violence against pregnant women.

1999 saw a Foundation commitment to accountability in the form of a specific audit plan, the development of which is well along. The Trustees also made a commitment to Foundation self-evaluation as part of the initiative. In a step that presages additional future initiatives to explore peripheral health issues for possible emphasis, the Trustees applied a small amount of discretionary funds to a project examining the possible interface of learning disabilities and behavioral health problems.

As Donaghue completed 1999, our eighth year of grant-making, we were pleased with our progress and excited by the promise of what 2000 will bring.

preservation, maintenance and improvement of human life.

Prom^{ise}

(v.) to give reason for expecting something.

(n.) reasonable grounds for hope and expectation, especially of future excellence.

The Donaghue Investigator Program

The Donaghue Investigator Program supports promising young medical researchers who hold faculty appointments at Connecticut institutions and are committed to pursuing a career in Ethel Donaghue's beloved home state. The funding emphasis of this unique program, now in its second year, is on each investigator's overall program of research, rather than on a specific study. Donaghue Investigators receive grants of \$100,000 a year for five years.

Five Connecticut-based researchers were named Donaghue Investigators in 1999.

During his five-year research program, **Carlos M. Grilo, PhD**, *Director of Psychology at the Yale Psychiatric Institute*, will focus on the treatment of binge eating and obesity, public health problems that are becoming increasingly prevalent, especially among minority populations. "Obesity affects nearly 50% of adults in the United States," says Dr. Grilo, "and a substantial portion of obese persons also have binge eating disorder."

As Dr. Grilo begins his first year as a Donaghue Investigator, he is deeply involved in a study of two established "guided self-help treatments" that promise to provide important insight as to "which treatments work best for which patients." He also plans to undertake a series of studies to examine the sociocultural aspects of obesity, body image, and their relation to health-promoting behaviors. "A particular effort will be made to examine these issues in minority individuals," says Dr. Grilo, "where rates of obesity are high but participation in clinical programs is low."

Dr. Grilo believes that the social stigma associated with obesity is keeping many people from seeking treatment. "I hope to address this problem by helping to develop better public health messages and education programs," he says.

Stephen L. Helfand, MD, *Associate Professor of Biostructure and Function at the University of Connecticut Health Center*, is studying the molecular genetic basis underlying the aging process. According to Dr. Helfand, further understanding of the biology of aging "is important not only for the long-term possibility of increasing life span, but for the more immediate benefits it will have on age-related diseases" such as cancer, cardiovascular disease, osteoporosis, arthritis and Alzheimer's disease.

"By understanding the process of aging, we hope to be able to ameliorate the pain and suffering associated with older age and, in turn, develop interventions that extend the number of healthy and productive years we may all hope to live."

Dr. Helfand's research has cast doubt on two critical concepts of aging: that adult life is a state of passive — rather than dynamic — change, and that all systems — rather than specific systems — decline during the aging process. That recognition has provided him with the impetus to concentrate his very promising research on identifying specific genes that extend life span. "The analysis of new genes which affect the rate of aging and longevity will have profound effects on our understanding of the aging process," he notes.

Eric G. Pamer, MD, *Associate Professor of Medicine and Immunology at Yale School of Medicine*, is investigating the redevelopment of antiviral immunity in cancer patients undergoing chemotherapy and bone marrow transplantation at Yale-New Haven Hospital. According to Dr. Pamer, the immune systems of these patients are often severely compromised, making them susceptible to a broad spectrum of infections, including the Epstein-Barr virus. Dr. Pamer will investigate the T lymphocyte response to Epstein-



Barr to determine whether patients who develop the virus have too few or, perhaps, inactive virus-specific immune cells.

“Our ultimate goal is to be able to identify which patients following bone marrow transplantation are most susceptible to severe viral infections,” says Dr. Pamer. “We also hope to develop new methods of protecting transplant patients from infection by transferring virus-specific immune cells from healthy donors.

“The most exciting aspect of our work is the possibility that we will be able to engineer bone marrow grafts prior to transplantation that will contain T lymphocytes that defend against viral and other pathogenic infection.”

Brain injury in premature babies is a public health problem that affects nearly 10,000 Connecticut children each year. **Scott A. Rivkees, MD**, *Associate Professor of Pediatrics at Yale School of Medicine*, is conducting studies on preventing such brain injury using compounds that block the action of the neurochemical adenosine.

“Because adenosine levels rise during the kinds of stress that newborns are exposed to, it is possible that adenosine receptor activation contributes to neonatal brain injury,” says Dr. Rivkees. “Blocking adenosine action may help prevent neurological injury in premature infants.”

While still in the early stages of his research, Dr. Rivkees is excited about the discovery that adenosine receptors are present on nerve fibers, and that activation of adenosine receptors slows nerve growth. “This discovery is novel and has great clinical relevance,” he says. “It is likely that we have found a previously unrecognized mediator of brain injury during development.”

From left to right: Eric G. Pamer, MD, Stephen L. Helfand, MD, Scott A. Rivkees, MD and Carlos M. Grilo, PhD

Below: Joann Sweasy, PhD

Joann B. Sweasy, PhD, *Associate Professor of Therapeutic Radiology and Genetics at Yale School of Medicine*, is studying the molecular basis of gene mutations, particularly how such mutations occur during meiosis — the process in which germ cells are produced in human ovaries and testes. According to Dr. Sweasy, knowing how and when the mutations occur is important because they often result in disease. “A number of diseases, including many forms of cancer, do not seem to be inherited,” she says. “This suggests that the mutations that underlie these diseases arise during conception and development.”

Specifically, Dr. Sweasy hopes to identify and understand certain proteins that function in meiosis, with the goal of determining whether any of these proteins are responsible for mutations that occur during the process. “If we can identify these proteins, we may be able to...predict what families have an increased risk of birth defects...so that we can counsel them regarding their chances of producing a child with a birth defect — before conception.” It is hoped that Dr. Sweasy’s research will eventually result in the development of diagnostic tools and therapies to actually prevent birth defects.



Research

(n.) studious and critical inquiry and examination aimed at the discovery and interpretation of new knowledge.

Clinical and Community Health

Each year, the Donaghue Foundation awards several one-, two- or three-year grants of up to \$180,000 for biomedical, behavioral and other health-related research projects that address major medical conditions and social problems affecting individual, group and community health. The Foundation is especially interested in clinical, epidemiological and health service studies that focus on more effective ways to prevent, diagnose and treat illnesses and conditions that have a major impact on the people of Connecticut.

In the context of these criteria, sixteen talented researchers were awarded grants in 1999 under the Foundation's Clinical and Community Health Issues funding initiative. The four featured here are representative of the awards.

Crohn's disease — a chronic illness that often causes inflammation in the gastrointestinal tract — affects more than one million Americans. In about half of these patients, there is decreased bone mass (osteopenia) at the time of diagnosis, a condition that increases the risk of fractures, even among youngsters. **Francisco A. Sylvester, MD**, *Pediatric Gastroenterologist at Connecticut Children's Medical Center*, is studying how Crohn's disease affects bone formation, using laboratory models such as bone cells, bones and intact animals.

"Crohn's disease is one of several diseases that can affect the bone remodeling process necessary to maintain consistent bone density," notes Dr. Sylvester. "We believe that the knowledge gained from our research will be important in the design of novel therapies to stop — or even reverse — osteoporosis in Crohn's disease patients."

"The relationship between inflammation and bone health is an intriguing one," adds Dr. Sylvester. "The possibility of discovering general mechanisms by which inflammation affects bone mass is very stimulating. The scope of our findings could affect patients with inflammatory conditions unrelated to Crohn's disease...by shedding light on general mechanisms by which inflammation affects our bones."





Thomas M. Gill, MD, *Associate Professor of Medicine at Yale University School of Medicine*, and an expert on aging, is evaluating the effects of “intervening events” — such as a fall or the flu — on social activities and productivity among a group of approximately 750 nondisabled persons 70+ years of age.

“Many studies have shown that functional decline and disability not only increase the likelihood of dying, but also lead to other adverse outcomes, such as hospitalization, nursing home placement, and greater use of home-care services,” says Dr. Gill. “An improved understanding of the disabling process will enable clinicians and researchers to design more effective and efficient strategies to prevent, slow, or reverse functional decline and disability, thereby enhancing the quality of life of older persons.

“We have designed a truly unique study whereby more than 750 nondisabled older persons are being followed closely to determine the onset and precipitants of disability. We have completed more than 10,000 telephone interviews. If our model is confirmed, future interventions will focus both on reducing vulnerability and on preventing or aggressively treating the precipitating events.”

At the end of his three-year research project, Dr. Gill hopes to have identified the intervening events leading to functional decline and disability among older persons, “many of which we expect to be common — and preventable.” Results of his team’s research will be widely disseminated to physicians and the public.



Research Scientist **Anne M. Delany, PhD**, is studying how mutations in a particular bone-making gene — osteonectin — are associated with osteoporosis. According to Dr. Delany, who conducts her research at Saint Francis Hospital & Medical Center, osteoporosis, which affects one in every four women, has both genetic and envi-

ronmental components.

“There is good evidence that osteonectin is critical for the maintenance of bone mass,” says Dr. Delany. “In our study, we are analyzing the DNA of people with a genetic predisposition for developing osteoporosis to determine if these individuals have any mutations in the gene coding for osteonectin.”

Dr. Delany believes that dissection of the genetic component of osteoporosis could provide a means for screening individuals at risk for developing the disease, as well as for identifying new therapeutic targets. “Performing genetic analyses of families with low bone mass is an exciting way to merge basic and clinical research on osteoporosis. This study represents an immediate, real life application of information obtained from basic research.

“As a result of my research, I expect to determine if there is an association between osteonectin gene mutations and low bone mass. These data will be used to further the understanding of the genetic component of osteoporosis and, hopefully, contribute to the improved treatment and prevention of this debilitating and painful disease.”

Dementia affects more than 65,000 persons in Connecticut. **Sandra Bellantonio, MD**, *Instructor at the University of Connecticut Health Center’s Center on Aging*, is undertaking a “first-of-its kind” study to specifically evaluate the outcomes of persons with dementia who reside in assisted living facilities.



According to Dr. Bellantonio, assisted living is attractive for persons with dementia because it offers a less restrictive living environment than traditional nursing homes, and because it is less costly. “It is important to ensure that the quality of care in these home-like settings is optimal for this somewhat vulnerable group of older adults,” she says. “My study will evaluate whether persons who receive intensive, multidisciplinary assessments are more likely to remain in assisted living, and less likely to experience nursing facility stays, emergency room visits and hospital admission.” Dr. Bellantonio’s team also will collect data on weight loss and behaviors, two important outcomes for persons with dementia.

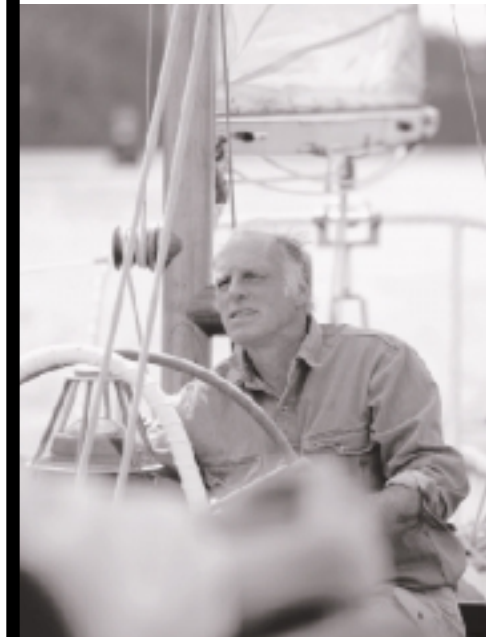
“As a result of our research I expect that there will be a body of literature available to guide physicians, families, policy makers and administrators on how to best serve the needs of persons with dementia. We hope to determine the answers to two very important questions: For what people with dementia is assisted living most appropriate, and how can their needs best be met?”

LOOK

As we look to the future, the Trustees recognize the need to work at balancing scientific advances and human considerations in addressing “health.” We’re convinced that just as science hopes to customize therapies to fit the unique genetic makeup of individuals, we need to acknowledge that health itself is in part a customized concept, meaning importantly different things to different people. Our use of resources must reflect this. Future health practice must be informed by hearing the words of patients and families. Practitioners must hear one another as well. And research must be informed by the “practical man,” as philosopher E.F. Schumacher has advised. People’s words — their stories — must be included in our efforts to go beyond knowledge to understanding.

TO THE FUTURE

Heal





Philosopher S. Kay Toombs (afflicted with MS), *The Meaning of Illness*

Health is the ability to pursue one's own goals within the confines of one's limitations.

World Health Organization

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

th

The condition of being sound in body, mind, or spirit.

Professor Giles Scofield

Health is not being free of disease but rather free *with* disease.

WORDS MATTER.

Alistair Campbell, *Health as Liberation*

Health is liberation.

Lady Blankwell, from *The Importance of Being Earnest*

Health is the primary duty of life.

John Keats

Health is my expected Heaven.

Philosopher Hans-Georg Gadamer, *The Enigma of Health*

Health is a natural equilibrium, a lived experience of completeness and wholeness. It is the unconscious absense of a lack of disharmony.

Florence Nightingale

Health is not only to be well, but to use every power to grow and evolve.

What's *Your* Definition Of Health?



Discover ^y

(n.) the act or process of obtaining sight or knowledge of for the first time.

PRACTICAL BENEFIT INITIATIVES

BEACON

The Biomedical Engineering Alliance for Connecticut — BEACON — is a unique collaborative arrangement among several Connecticut-based hospitals, colleges and universities. In the summer of 1999, Donaghue Foundation grants were provided to two researchers whose institutions — the University of Connecticut Health Center and Trinity College — are BEACON members.

Over the next two years, **Steven L. Goodman, PhD**, *Assistant Professor at the Center for Biomaterials at the University of Connecticut Health Center*, will continue to develop “an entirely new method to produce tissue engineering scaffolds.” In tissue engineering, the scaffold provides the three dimensional framework for cells to attach and grow into a living tissue.

“This new method can build structures that mimic real biological tissues from essentially any combin-

ation of synthetic polymers, proteins, and other biomolecular building blocks,” says Dr. Goodman. “By building scaffolds...that mimic the fine-scale architecture of biological organs, cells will be able to grow more rapidly into functional ‘artificial’ tissues.”

Dr. Goodman envisions that his tissue engineering methodology will enable fully functional vascular grafts and prosthetic heart valves to grow in vitro. As a result of the advancement of fiber optics, he sees the methodology eventually being applied to repair aneurysms and hemorrhaged arteries directly within patients. “While the eventual application of this...optical fabrication is extremely exciting, our current level of research is also quite rewarding.”

Abdominal aortic aneurysms (AAAs) — permanent swellings of the aorta at sites where it is locally weakened — occur in approximately 2-3 percent of the population, with a mortality rate upon rupture of 79-84 percent. Principal investigator **Robert A. Peattie, PhD**, *Assistant Professor of Engineering at Trinity College*, is evaluating the mechanical patterns that cause these ruptures, using model AAAs derived directly from Hartford Hospital patients.

“This project is very exciting because we are developing models based on specific patients,” says Dr. Peattie. “Unlike previously published investigations — including those from our own laboratory — we will be able to replicate the exact shape and configuration of a patient’s AAA, rather than depend on idealized models and patient-averaged data. As a result, the accuracy of the risk assessment process will be significantly improved.”

Dr. Peattie’s research is a continuation of AAA investigations he began when he was on the faculty at Tulane University. He plans to use the results from the BEACON study as the basis for requesting additional research grants from the National Science Foundation and the National Institutes of Health.



Robert A. Peattie, PhD and Steven L. Goodman, PhD

Biomedical Engineering
Alliance for Connecticut

The BEACON project may be sited in the emerging “Learning Corridor” under construction between Hartford Hospital and Trinity College in Hartford.

Through its Practical Benefit Initiatives program, the Donaghue Foundation helps to initiate research projects showing particular promise for producing practical benefit to human health. An interactive process between the Foundation and prospective investigators is used to develop projects to be funded under the program.

Pain

(n) a basic bodily sensation induced by a noxious stimulus...characterized by physical discomfort; acute mental or emotional distress or suffering.

ASLME

Late in 1998, the Donaghue Foundation agreed to fund the Connecticut Statewide Pain Management Initiative, a two-year research effort that is being conducted by the Boston-based American Society of Law, Medicine & Ethics (ASLME). **Benjamin Moulton, JD, MPH**, *Executive Vice-President of ASLME*, and **Diane Hoffman, JD**, *of the University of Maryland School of Law*, head up the project.

The ASLME team initiated its work early in 1999 with an exploration of populations at risk for what Moulton refers to as the “under-treatment” of pain. “In terms of individuals at risk for under-treatment, we looked at populations with diseases such as cancer, AIDS and arthritis, as well as populations that are generally at risk for inadequate medical care, such as the poor, certain minority groups, the elderly (in particular, nursing home residents), and the under- and uninsured.”

An effort also was begun in 1999 to determine what pain management resources — in terms of expertise, facilities, personnel, training programs, literature, and consumer assistance — currently exist in Connecticut. Among their findings to date:

- Twelve hospitals in the state provided pain management consultation by physicians who had no formal pain management certification.
- 47% of Connecticut hospitals surveyed did not have a hospital-wide pain management policy.
- 56% of hospitals surveyed did not assess pain as part of their assessment of vital signs.

According to Moulton, the problems of adequate pain management are multifaceted, a fact made compellingly clear in focus groups conducted during the year with physicians and patients. “The focus groups underline the difficulty in assessing reality and perception in the area of pain management,” says Moulton. “There is no single right answer. What is suggested is that there needs to be improved training, more commitment, and better communication by both patients and physicians.”

“This has been a remarkable project for Diane and me,” adds Moulton. “First, there has been a true collaboration among all the stakeholders we have dealt with — a willingness to set aside issues of turf in order to share information in the hope of making a difference in outcome. Second has come a humility from listening to patients and physicians as we grapple with the many barriers to effective pain management.”



Steering Committee members from left to lower center: Ida Schnipper, RN; Benjamin Moulton, JD, MPH; Ed Hargus, MD; Barbara Morrison, RN; Steve Levin, MD and Diane Hoffman, JD, MPH
(Not pictured: Rich Gannon, PharmD and Neil Schechter, MD)

Prevention

(n.) the act of taking advance measures against something possible or probable.

PRACTICAL BENEFIT INITIATIVES

PPAP

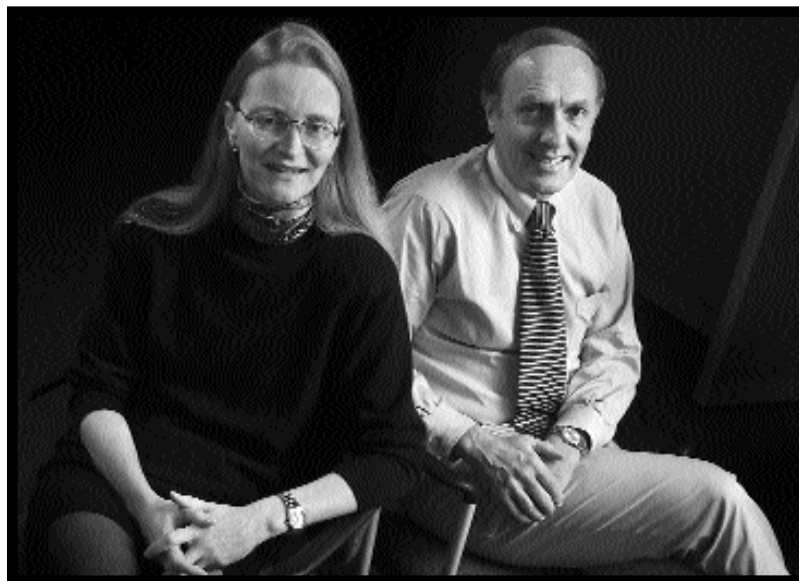
Howard Bailit, DMD, PhD, *Director of Health Policy and Primary Care Research at the University of Connecticut Health Center*, oversees three projects funded under the umbrella of the Donaghue Foundation's Private-Public Alliance for Prevention (PPAP), an initiative that focuses on serious — but preventable — health problems in Connecticut's inner cities.

"All three of our projects involve the development of real-world screening and treatment programs that, if successful, will continue without Foundation support," says Dr. Bailit. "As head of this initiative, I identified the community problems, worked with content experts to develop research proposals that meet high scientific standards, and gained the support of public and private organizations to participate in the projects."

Easy Breathing

In 1998, the Donaghue Foundation awarded \$2.1 million to the University of Connecticut Health Center for an ambitious four-year study aimed at improving the quality of life for thousands of Hartford schoolchildren who suffer from asthma. Under the direction of **Michelle Cloutier, MD**, *a pulmonary specialist at Connecticut Children's Medical Center*, the citywide Easy Breathing program is well on its way toward realizing that goal. "To date, more than 6,500 children have been screened," says Dr. Cloutier. "Asthma has been prevalent in 42 percent of those screened, and approximately 50% of those children have persistent asthma."

Before Easy Breathing was implemented, nearly 28 percent of Hartford's asthmatic children were receiving some type of anti-inflammatory therapy. Dr. Cloutier anticipates that this percentage will nearly double when data generated by the screening process are analyzed in 2000.



Mary Duncan, PhD and Howard Bailit, DMD, PhD

As one of the nation's first public-private collaborations to address a chronic health problem at the community level, Easy Breathing also is providing Hartford's primary care providers with better tools for diagnosing and treating asthma, a chronic disease which has been steadily on the rise, particularly among Latino and African-American children. "Over the next two years, we will continue to work with health care providers to improve their asthma management skills, as well as their efficiency in delivering asthma care," says Dr. Cloutier.

Vital Signs

Smoking and alcohol abuse are among the leading contributors to preventable diseases and premature mortality. Vital Signs, a program spearheaded by **Thomas Babor, PhD**, *Chairman of the Department of*

Through participation in the three PPAP studies, more than 50,000 Medicaid patients in the Hartford area will be both served and studied.

Easy Breathing, Vital Signs
and Domestic Violence

Private-Public Alliance For Prevention

Through PPAP, the Foundation has committed more than \$4 million to address important community health problems, such as childhood asthma, tobacco and alcohol abuse, and domestic violence.

Through its Practical Benefit Initiatives program, the Donaghue Foundation helps to initiate research projects showing particular promise for producing practical benefit to human health. An interactive process between the Foundation and prospective investigators is used to develop projects to be funded under the program.

Community Medicine and Health Care at the University of Connecticut Health Center, seeks to further evaluate the use of a promising, low-cost procedure — screening and brief interventions (SBI) — for managing these widespread problems. The three-and-a-half-year project, which will be carried out in cooperation with the State of Connecticut and City of Hartford, will focus on Hartford Medicaid populations in order to demonstrate the value of SBI in practical managed care settings.

The SBI approach begins with a self-screening test to help identify heavy drinkers or smokers, followed by low intensity, short duration counseling for those who screen positive. “While SBI has been successful in clinical trials, it remains to be determined whether reductions in drinking and smoking can be replicated in practical settings, and whether SBI is more or less effective when used with persons who are both smokers and risky drinkers,” says Dr. Babor.

The Vital Signs team has a full agenda for 2000, with plans in place to prepare clinical sites for participation in the study, conduct a pilot test of screening

procedures, train recruitment sites to screen and conduct smoking cessation and risky drinking interventions, and begin the formal recruitment of study participants. “The Vital Signs project is well underway,” adds Dr. Babor. “When it is completed, it should provide important information about the effectiveness of SBI, as well as how best to make it a standard practice in medical settings, especially those serving minority populations.”

Domestic Violence

University of Connecticut Health Center Assistant Professor **Mary Duncan, PhD**, is the primary investigator in a three-year project dedicated to evaluating and improving clinic-based screening and intervention programs for low-income women abused during pregnancy. Through two linked studies involving 3,000 women on Medicaid (or with no insurance at all), Dr. Duncan hopes to improve partner abuse screening methodologies and, through a social service intervention, improve prenatal services and patient safety.

By the end of 2000, Dr. Duncan expects to have completed two pre-studies, trained physicians, nurses, and social workers in all participating sites, and begun data collection. Longer term objectives include: an evaluation of whether performance feedback is an effective method of establishing optimal partner abuse screening practices among medical residents and advanced practice nurses; improved estimates of partner abuse among pregnant patients receiving care at participating clinics; an evaluation of a new method of safety counseling; and the identification of patient benefits associated with social service interventions and improved safety assessment instruments.

Dr. Duncan’s program — formally entitled Screening, Outreach and Safety for Abused Prenatal Patients — calls for the regular screening of all patients receiving prenatal care at Hartford Hospital, St. Francis Hospital and Burdorf/Fleet Health Center. It is an ambitious effort but one that she believes will make a difference in the ongoing struggle to prevent domestic violence. “At the end of three years, we hope to have improved patient well-being, patient safety, and patient care through improved medical and social services.”



Thomas Babor, PhD and Michelle Cloutier, MD

Awards

(n.) something conferred or bestowed as being deserved or merited.

NEW 1999 AWARDS

CLINICAL AND COMMUNITY HEALTH ISSUES

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

Janet Brandsma, PhD

Yale University School of Medicine
Novel HPV probes to improve cervical 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

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

Beth Anne Jones, PhD, MPH

Yale University School of Medicine
Mammographic patterns in African-American & white women in Connecticut

Song Lai, PhD

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

Robert Malison, MD

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

Gerald Sanacora, MD, PhD

Yale University School of Medicine
Cortical GABA concentrations in depression

Francisco Sylvester, MD

Connecticut Children's Medical Center
Crohn's disease and osteopenia

Pamela Taxel, MD

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

Marietta Vazquez, MD

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

DONAGHUE INVESTIGATOR PROGRAM

Carlos Grilo, PhD

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

Stephen Helfand, MD

University of Connecticut Health Center
Geriatrics: Molecular genetics of aging

Eric Pamer, MD

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

Scott Rivkees, MD

Yale University School of Medicine
Pediatrics: Prevention of brain injury in pre-mature infants

Joann Sweasy, PhD

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

PRACTICAL BENEFIT INITIATIVES

PUBLIC-PRIVATE ALLIANCE STUDY: VITAL SIGNS (SUBSTANCE ABUSE)

Howard Bailit, DMD, PhD

University of Connecticut Health Center

Thomas Babor, PhD, MPH

University of Connecticut Health Center

BEACON INITIATIVE

Joseph Bronzino, PhD

Trinity College: BEACON

Robert A. Peattie, PhD

Trinity College
Patient-based investigation of aortic aneurysm mechanics

Steven L. Goodman, PhD

University of Connecticut Health Center
Nanofabrication for cardiovascular tissue engineering

TRUSTEE INITIATIVES

Howard Bailit, DMD, PhD

University of Connecticut Health Center

Susan Austin, ScD

University of Connecticut Health Center
"Screening for Learning Disabilities in Pre-Adolescents Using Psychosocial Disability Markers"

James D. Kenney, MD

Yale School of Medicine
"What's In Your Medicine Cabinet?" Seminar Series

CONTINUATION AWARDS

CLINICAL AND COMMUNITY HEALTH ISSUES

Walid Abi-Saab, MD

Yale University School of Medicine
Neuroleptics on cortical glutamate in schizophrenia

Tryfon Beazoglou, PhD

University of Connecticut Health Center
Improving prenatal screening protocols

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

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

Peter DeLuca, MD

Sylvia Ounpuu, MSc
Connecticut Children's Medical Center
10-year follow-up of orthopedic surgery in cerebral palsy

Jasminka Ilich-Ernst, PhD

University of Connecticut
Sodium intake and bone mass in post-menopausal women

Carol Lammi-Keefe, PhD

University of Connecticut
Pregnancy with diabetes: infant neurobehavior

Patricia Neafsey, PhD

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

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

Paul Thompson, MD

Hartford Hospital
Effect of E Genotype on lipid response to exercise

DONAGHUE INVESTIGATOR PROGRAM

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

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

David Rimm, MD, PhD

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

Stephen Strittmatter, MD, PhD

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

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 Study)

Benjamin Moulton, JD, MPH

American Society of Law, Medicine, Ethics
Connecticut Statewide Pain Management Study

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

NEW INVESTIGATOR GRANTS

Cheryl Frye, PhD

University of Hartford
Neurosteroids' role in neurodegenerative disorders

Advisory

(adj.) having or exercising the power to advise and counsel.

THE SCIENTIFIC ADVISORY COMMITTEES

Howard L. Bailit, DMD, PhD (Chair)
University of Connecticut Health Center
Director, Health Policy and Primary Research Center

CLINICAL & COMMUNITY HEALTH REVIEW COMMITTEE

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Director, Health Policy and Primary Research Center

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Yale School of Medicine/West Haven VAMC

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Pfizer, Inc.
Director, Biometrics

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Harvard School of Public Health

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Associate Professor

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Professor of Neurology

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Director, Center for AIDS Research

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Director, Health Policy and Primary Care Research Center

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Saint Francis Hospital and Medical Center
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Joslin Diabetes Center
Head of Vascular Cell Biology and Complications

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Ira Mellman, PhD
Yale School of Medicine
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University of Connecticut Health Center
Professor and Head, Department of Pathology

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Harvard Medical School
Professor, Department of Genetics

Wilma Wasco, PhD
Massachusetts General Hospital
Assistant Professor, Department of Neurology

Sherman M. Weissman, MD
Yale University School of Medicine
Sterling Professor of Genetics

Grant

(n.) something of value given for a purpose.

POLICY ADVISORY COMMITTEE

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*President and CEO, Hospital for Special Care
(Retired)*

Howard Bailit, DMD, PhD

West Hartford
University of Connecticut Health Center

Joseph Flood, MSW

Thomaston
Director of Social Work, Hartford Hospital

George C. Hastings, Esq.

West Hartford
Of Counsel, Robinson & Cole

Alyce Hild

West Hartford
Executive Director, Loaves and Fishes Ministry

Edward Johnson, DDS

Hartford
*Senior Vice President, St. Francis Hospital
& Medical Center*

David Knecht, PhD

Storrs
University of Connecticut

Judith R. Kunisch, MBA, RN

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Network Director, VNA Managed Care, Inc.

Worth Loomis

Hartford
Dean, Hartford Seminary

Sherwin B. Nuland, MD, FACS

Hamden
Surgeon and Author

Honorable Alvin W. Thompson

Windsor
Judge, US District Court, Hartford

GRANTS IN 1999

Institution	New	Continuation	Total
American Society of Law, Medicine & Ethics	0	1	1
Connecticut Children's Medical Center	0	1	1
Hartford Hospital	0	1	1
St. Francis Hospital & Medical Center	2	0	2
Trinity College	1	0	1
University of Connecticut Health Center	8	4	12
University of Connecticut/Storrs	0	2	2
University of CT School of Nursing	1	1	2
University of Hartford	0	1	1
Wesleyan University	0	1	1
Yale University	0	1	1
Yale School of Medicine	12	13	25
Yale School of Nursing	0	1	1
Total	24	27	51

FUNDS AWARDED BY GRANT PROGRAM FOR GRANT CYCLE BEGINNING IN 1999

New Investigator Grants	Total
Continuing (3)	\$109,755
Research in Clinical & Community Health Issues	Total
New (16)	\$1,039,725
Continuing (14)	\$898,498
Donaghue Investigator Program	Total
New (5)	\$550,000
Renewal (6)	\$652,000
Practical Benefit Initiatives	Total
New (2)	\$569,435
Continuing (3)	\$1,865,552
Trustee Initiatives	Total
New (1)	\$39,290
Continuing (1)	\$9,025
Total	\$5,733,280

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 specific research. 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.



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 a brochure about *Leave a Legacy Connecticut* with this annual report.

For more information, contact:

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