

# Collins Medical Trust

Medical Research and Education in Oregon

2017 Annual Report



Maribeth W. Collins  
1918 – 2017

# Collins Medical Trust

## 2017 Annual Report

### Purpose and History

“The principal and income of the trust fund shall be used (a) to aid, further, promote, develop, encourage and sponsor research, experiment and work in the cause, cure and treatment of human diseases or in any field of medical research, and (b) to aid, further and promote medical education.”

The Collins Medical Trust was founded by Truman Collins Sr. in the fall of 1956. He was interested in the medical field and wanted to set up a trust that would contribute to medical research and education taking place in Oregon. Contributions were made to the trust over the next ten years or so, and its assets have grown significantly since that time, largely due to the wise investment decisions of the financial adviser, Jim Miller, over the first forty years of the Trust’s existence.

Because the Trust makes relatively small grants—typically in the \$25,000 to \$30,000 range—our focus for research has primarily been seed funding for projects that, if successful, will go on to apply to the NIH or to other large funders for later-stage funding. We also like to support researchers at a stage where they are gaining their independence in a supportive environment.

Since its inception, the Collins Medical Trust has made grants totaling about \$10.5 million.

### Trustees and Staff

Shannon Osieczanek	Administrator	(2016 – present)
Truman Collins Jr.	Trustee	(1990 – present)
Dr. Elizabeth Eckstrom	Trustee	(2003 – present)
Dr. Walter McDonald	Trustee	(2005 – present)
Virginia Tilden, Ph.D.	Trustee	(2017 – present)
Timothy Bishop	Treasurer	(1990 – present)

### Financial Statements (Fiscal year ending September 30, 2017)<sup>1</sup>

Assets and Liabilities			Revenue and Expenses		
<u>Assets:</u>	2017	2016	<u>Income:</u>	2017	2016
Cash	\$85,000	\$256,000	Income (interest & dividends)	\$239,000	\$228,000
Stocks	\$9,675,000	\$8,285,000	Realized gains	\$86,000	\$660,000
<u>Total assets</u>	<u>\$9,760,000</u>	<u>\$8,541,000</u>	Unrealized gains	\$1,411,000	\$815,000
			<u>Total income</u>	<u>\$1,736,000</u>	<u>\$1,703,000</u>
<u>Liabilities</u>	<u>(\$57,000)</u>	<u>(\$52,000)</u>	Taxes & investment expense	(\$6,000)	(\$9,000)
<u>Net Assets</u>	<u>\$9,703,000</u>	<u>\$8,489,000</u>	<u>Net Investment Income</u>	<u>\$1,730,000</u>	<u>(\$1,694,000)</u>
			Grants - net	(\$516,000)	(\$466,000)
			<u>Net revenue</u>	<u>\$1,214,000</u>	<u>(\$1,228,000)</u>

<sup>1</sup>Rounded to the nearest thousand.

**2017 Grants (October 1, 2016 – September 30, 2017)**

**Research**

<b>Eileen Chang, Ph.D.</b>	<b>OHSU Foundation</b>	<b>\$30,000</b>
Why Do Hypotensive Fetuses Have Compromised Hearts?		
<b>Penelope Hogarth, M.D.</b>	<b>OHSU Foundation</b>	<b>\$30,000</b>
OHSU and OSU Partnering in Portland for Rare Diseases		
<b>Milky Kohno, Ph.D.</b>	<b>OHSU Foundation</b>	<b>\$30,000</b>
Reducing Neuroinflammation with Ibudilast and Improving Brain Function in Methamphetamine Dependence		
<b>Jennifer Lillemon, M.D.</b>	<b>OHSU Foundation</b>	<b>\$29,986</b>
The Effect of a Vaginal Estrogen Ring on the Urinary Microbiome in Postmenopausal Women		
<b>Allison Lindauer, Ph.D., N.P.</b>	<b>OHSU Foundation</b>	<b>\$30,000</b>
Tele-STAR: Extending Caregiver Support		
<b>Anusha Mishra, Ph.D.</b>	<b>OHSU Foundation</b>	<b>\$29,965</b>
Develop a Viral Vector Construct to Study the Role of Astrocyte Calcium in No-reflow Following Stroke		
<b>Swati Mishra, Ph.D.</b>	<b>OHSU Foundation</b>	<b>\$30,000</b>
$\beta$ Cell Specific Delivery of Harmine using Antibody Directed Nanocarriers for the Targeted Treatment of Type1-Diabetes		
<b>Laura Newell, M.D.</b>	<b>OHSU Foundation</b>	<b>\$29,994</b>
Placental Growth Factor Enhances the Inflammatory Response by Disrupting microRNA/Polysome Complexes		
<b>Angela Ozburn, Ph.D.</b>	<b>OHSU Foundation</b>	<b>\$30,000</b>
Targeting the Molecular Clock to Reduce Binge-like Alcohol Drinking		
<b>Fikadu Tafesse, Ph.D.</b>	<b>OHSU Foundation</b>	<b>\$30,000</b>
Defining the Role of Bioactive Lipids in Zika Virus Infection		
<b>Laura Villasana, Ph.D.</b>	<b>OHSU Foundation</b>	<b>\$30,000</b>
Role of Neurogenesis on Cognitive Recovery After Brain Injury		
<b>Kelly Vranas, M.D.</b>	<b>OHSU Foundation</b>	<b>\$23,700</b>
The Association of Physicians Orders for Life Sustaining Therapy (POLST) With Healthcare Resource Utilization Among Acute Care Patients in Oregon		
<b>Paul Yang, M.D., Ph.D.</b>	<b>OHSU Foundation</b>	<b>\$30,000</b>
Neuroprotective Mechanisms of Dark-Rearing in Retinitis Pigmentosa		
<b>Luai Zarour, M.D.</b>	<b>OHSU Foundation</b>	<b>\$30,000</b>
Evaluation of M $\Phi$ -cancer Cell Hybrids in Circulation During Treatment of Patients with Colorectal Cancer		
<b>Andrew Gunderson, Ph.D.</b>	<b>Providence Portland Medical Foundation</b>	<b>\$30,000</b>
Linking B Cell Immune Phenotype to Radiation Response in Rectal Cancers		
<b>Total Research:</b>		<b>\$443,645 (87%)</b>

## Education

Linfield School of Nursing	\$65,000
Paquet Scholarship Fund, Half for Endowment and Half for Current Scholarships.	
<b>Total Education:</b>	<b>\$65,000 (13%)</b>
<b>Total Grants Approved in 2017:</b>	<b>\$508,645</b>

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## Illustrative Prior Grant Recipients – Text Supplied by OHSU

It may take years before the outcome of a research project is fully known. The following grants were made in past years. For each, some context and detail is given for the outcome of the project. The summaries of these grants were provided by OHSU.

### **Cognitive Dysfunction in Heart Failure: The Role of Hypoperfusion and Apolipoprotein E4**

Jill Gelow, M.D.

Oregon Health Sciences University

\$30,000 awarded in September 2012

The rising prevalence of heart failure (HF) has made this syndrome an important worldwide public health problem that is extremely costly to health systems. More than 23 million people in the world are diagnosed with HF, including 5 million people in the United States (US). HF results in more than one million hospitalizations and 300,000 deaths annually in the US and is costly to the health care system with direct and indirect costs exceeding \$33 billion each year. It is estimated that up to 50% of HF patients experience cognitive impairment. Cognitive impairment negatively impacts the quality of life of patients with HF and is associated with increased risk of re-hospitalization, progressive physical disability and higher mortality. In preliminary studies at OHSU, we found that the presence of even mild cognitive impairment in HF patients was associated with poor self-care maintenance (the ability of patients to adhere to medications, diet, follow-up appointments) and management (the ability of patients to evaluate and respond to HF symptoms when they occur). Despite the high prevalence and the adverse prognostic implications of cognitive impairment in HF, its basis has been poorly understood.

In 2015, the Collins Medical Trust provided funding to Dr. Gelow for a study in which she sought to determine the influence of cognitive dysfunction, identified using the Montreal Cognitive Assessment (MoCA), on 180-day cardiovascular events. We analyzed data on 246 participants in an observational cohort study of adults with HF. The interview-format MoCA was administered to all participants. Time to first cardiovascular event was assessed as a cumulative end point during the 180 days after enrollment. Cox proportional hazards model was used for analysis of time to first event. The MoCA score was < 26 for 91 patients (37%). Patients with a MoCA score < 26 were more likely to have a cardiovascular event at 180 days. MoCA score < 26 remained an independent predictor of cardiovascular event risk at 180 days when adjusted for the Seattle Heart Failure Model Score and the Charlson comorbidity index (hazard ratio 1.7, 95% confidence interval 1.1 to 2.6, p = 0.03).

In conclusion, in patients with HF, cognitive dysfunction identified with a MoCA score of < 26 is associated with increased risk of cardiovascular events at 180 days. The findings of this study have important clinical implications. We were able to demonstrate that the MoCA can identify a high-risk group of HF patients that may benefit from more intensive follow-up. This has influenced clinical practice as HF cardiologists had not routinely utilized the MoCA. To further demonstrate the impact of MoCA, we conducted further research to

examine cognitive function in heart failure patients undergoing left ventricular assist device implantation.

Since completion of this project, I have published our work on cognitive dysfunction in heart failure: Gelow JM, Mudd JO, Chien CV, Lee CS. Usefulness of cognitive dysfunction in heart failure to predict cardiovascular risk at 180 days. *Am J Cardiol.* 2015; 115: 778–782. I have also been positioned to engage in multidisciplinary research activities at Oregon Health and Science University in the area of heart failure, including authorship on 15 subsequent publications (<https://www.ncbi.nlm.nih.gov/pubmed/?term=gelow>).

### **Central adenosine A1 receptor activation induces a hypothermic and hypometabolic state — a mechanism for the induction of therapeutic hypothermia**

Domenico Tupone, Ph.D.

Oregon Health Sciences University

\$30,000 awarded in September 2012

Stroke is the second leading cause of the death in the world and third in the US, accounting for nearly 800,000 deaths annually, including 120/100,000 individuals in Oregon. The direct medical cost of stroke in USA was estimated at \$18.8 billion in 2008. Included in this cost is the care of those who survive their stroke: only 10% recover almost completely, 25% with minor impairments and 40% of stroke victims experience moderate to severe impairments requiring special care. The prolonged lack of oxygen (hypoxia) that occurs when a blood clot or plaque blocks a major artery feeding the brain (stroke) or the heart (heart attack) produces an area of tissue death (infarct) that is determined by the length of time that the blood supply is compromised (ischemia) and by the area of tissue that the obstructed artery normally supplies with oxygen. In the case of a stroke, the resulting neuronal death, often in the cortex of the brain, results in neurological outcomes characterized by a loss of the function (motor control, speech, sight, etc.) performed by the affected area. Since 87% of all strokes are ischemic, reducing the area of infarction after stroke provides an important therapeutic target to improve recovery of function and reduce the disability consequent to stroke.

In 2012, the Collins Medical Trust provided funding to Dr. Tupone to support a research project that proposed to use a pharmacological approach to interrupt these CNS “cold-defense” mechanisms and thus allow body temperature to fall to therapeutic levels upon exposure to a cooled environment. The two aims of this project were: 1) to produce a model of pharmacologically-induced hypothermia in rat, and 2) to determine the protection that this pharmacologically-induced hypothermia might provide against the brain damage following ischemic stroke.

The first aim was accomplished by showing that the central administration of an adenosine A1 receptor agonist induces a profound hypothermia in rats exposed to a mildly cool ambient temperature. Although rats do not hibernate, this hypothermia and the accompanying physiological changes resembled the torpor-like state in hibernating animals. The results of this study were published in *The Journal of Neuroscience* (*J. Neurosci.*, 33: 14512–14525, 2013). The project had a big impact in the research community and gave me the opportunity to present the result to different meetings: (1) Summer Research Conference entitled “Neural Mechanisms in Cardiovascular Regulation” sponsored by the Federation of American Societies for Experimental Biology (FASEB), 2013 in Oregon, US; (2) International Union of Physiological Sciences (IUPS), 2013 in Birmingham, UK; (3) International Society for Autonomic Neuroscience (ISAN), 2013 in Giessen, DE. The quality and the novelty of these results also allowed me to receive several awards to travel to these meetings: American Journal of Physiology (AJP) travel award (\$1,000), Tartar Fellowship Award (\$2,000), ISAN travel award (\$600) and FASEB Travel Award (\$865). The publication of this study also received media attention, resulting in interviews and subsequent reports from *Science News* and from the Korean popular science magazine, *Donga-Science*.

Significant progress was made on the second aim of the project showing that pharmacological hypothermic treatment could reduce the cortical infarct volume in the middle cerebral artery occlusion model of

stroke. These preliminary data were also presented at the above-mentioned meetings and were included as preliminary data for an NIH R01 grant application.

The overall project and some of the preliminary experiment obtained in the first aim of the study, sparked some new ideas about the thermoregulatory mechanisms involved in the regulation of the hypothermia. I discovered together with my collaborators, a new thermoregulatory paradigm which we have named *Thermoregulatory Inversion*. Briefly, exposure to cold normally elicits shivering and activation of brown adipose tissue (thermogenesis) to increase body temperature, while exposure to a warm environment inhibits those functions, which allows mammals to maintain a stable body temperature. During thermoregulatory inversion, responses to cold and warm exposure are inverted and then exposure to cold will produce inhibition of thermogenesis while exposure to warm enhances thermogenesis. This inverted state can represent the mechanism leading the entrance to a hibernating/torpid state and can be triggered in non-hibernating animal by the activation of adenosine A1 receptors (A1AR) in the brain (Tupone D. et al., 2017).

The preliminary data for this study was used to submit an NIH R01 proposal that was awarded to me in June 2017. The proposed study explores the brain neuronal circuits mediating this state of thermoregulatory inversion, and the result of this work could lead to pharmacological tools for rapid and controllable induction of therapeutic hypothermia to be used in treatment of ischemic stroke or intractable fevers.

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## Policies and Procedures

The Collins Medical Trust was established in 1956 by Truman W. Collins as a tax-exempt charitable trust under the laws of the State of Oregon. It is recognized by the Internal Revenue Service as tax-exempt under Section 501(c)(3) of the Internal Revenue Code and has been classified as a private foundation under Section 509(a) of the Code. The Trust is directed by a Board of Trustees.

### Policies

The Original Trust document states that monies from the Trust shall be used:

- “To aid, further, promote, develop, encourage and sponsor research, experiment and work in the cause, cure and treatment of human disease or in any field of medical research, and
- To aid, further and promote medical education.”

With this statement as a guide, and having knowledge of the desires and concerns of the Trustor, Mr. Collins, and applicable laws, the Trustees over the ensuing years have established the following *general guidelines* under which grant requests are considered:

1. Disbursements are made only to organizations which have established their tax-exempt status with the U.S. Treasury Department and are operated exclusively for scientific and/or educational purposes.
2. Preference is given to projects and programs conducted by qualified organizations within the State of Oregon.
3. Funds cannot be paid directly to or for the benefit of any specific individual. This does not preclude grants to qualified institutions for organized scholarship programs. Education is generally geared toward the education of health care professionals.
4. Grants for annual operating budgets or for deficit financing are not favored.
5. Disbursements are normally not made to “Private Foundations”, as defined in the Internal Revenue Code.

6. The Trust will not support efforts to influence legislation or other political action.
7. In considering projects or programs involving substantial funds, the Trust prefers to participate with other donors and expects the applicant to seek additional support.
8. Research involving human subjects, animals, or recombinant DNA must be approved by the appropriate institutional review board (IRB/IACUC/IBC). Investigators are encouraged to submit this application simultaneously but it is not a requirement. Note that no funds will be distributed until IRB/IACUC/IBC approval is obtained.

Preference is given to projects or proposals where the researcher/investigator is newly embarking on their research career and is clearly supported by their respective mentor(s).

### **Submission Procedures**

Requests for information and applications for grants from the Collins Medical Trust should be presented in writing. Applications need not be formal and should include an Executive Summary suitably brief to present the necessary facts about the applying organization and the project for which the grant is being sought, supported by sufficient technical detail to present a clear picture of the project and expected outcomes. Project outcomes should be clearly articulated, along with an evaluation plan that will determine how successful the project was in attaining its objectives.

The application should include (If the Trustees believe further information is required, they may request an interview with a principal of the applicant and/or a visit to the applicant's facility):

1. The exact name of the organization or agency making application, and the specific date when requested funds will be required.
2. A copy of the letter from the Treasury Department of the United States which grants tax exempt status; also a statement that the applicant is classified as "Not a Private Foundation", as defined in the Internal Revenue Code.
3. The nature of the project for which funds are requested. Projects seeking funding for symposiums, seminars or conferences should contain details regarding course evaluations.
4. Curriculum vitae of the investigator(s). NIH format is preferred.
5. Junior investigators should identify and provide evidence of an established mentor relationship as well as submit a letter of support from their primary mentor(s).
6. MD's should substantiate 'protected' time for research.
7. Bibliography supporting the project.
8. In research projects involving human subjects, the status of IRB approval should be included.
9. A budget for the proposed project.
10. Estimated total of funds required for the proposed project and the amount sought from the Collins Medical Trust.
11. Anticipated source of balance required in excess of funds requested from the Collins Medical Trust.
12. Other sources being approached for financial assistance for the project.

Electronic submission (preferred): via email to [CMT@collinsmedicaltrust.org](mailto:CMT@collinsmedicaltrust.org) (.pdf format preferred).

Hard copy submission: Submit the *original and 1 photocopy* of the proposal (including any supporting documentation). Mail to:

Shannon Osieczanek, Administrator  
Collins Medical Trust  
29100 S.W. Town Center Loop, Suite 300  
Wilsonville, OR 97070  
(503) 826-5230  
[CMT@collinsmedicaltrust.org](mailto:CMT@collinsmedicaltrust.org) <http://www.collinsmedicaltrust.org/>

### Replies to Applications

The Trustees meet *three times a year*, in January, May and September. Requests should be submitted by the *last business day of the month preceding* these months to receive timely consideration. It is not possible to react to emergency requests for crash programs. When an application has finally been acted upon by the Trustees, it will be accepted or rejected in writing sent to the mailing address of the applicant by the first week in the following month.

### Reports

The organization receiving a grant from the **Collins Medical Trust** has a responsibility to report on the use of the funds granted. Unless otherwise indicated at the time disbursement is made, reports are requested to be made annually until a year after the project has been completed. These reports should cover not only progress, but also evaluate the results being achieved. Additionally, throughout the duration of the project, any substantial changes in scope, personnel, or funds that are re-directed from the original purpose, should be reported to the Administrator of the Collins Medical Trust for approval by the Trustees at their next regularly scheduled meeting. Lastly, the Collins Medical Trust expects acknowledgment, primarily in scientific publications, for their contribution in support of the project.

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## Trustee Biographies

### Walter J. McDonald, M.D., M.A.C.P.

Walter received his undergraduate education at Williams College and his MD degree at the University of Michigan. Following a residency in internal medicine at Oregon Health Sciences University, he returned to Michigan for training in Endocrinology. He is certified in both internal medicine and endocrinology.

Walter was the Chief of Medicine at the Portland Oregon VA Medical Center for 12 years beginning in 1979. He then assumed the role of Associate Dean for Education at the Oregon Health Sciences University. In 1995 he became the CEO of the American College of Physicians. In 2002 he assumed the role of CEO of the Council of Medical Specialty Societies, a position he held until 2008.

Walter is the vice president for QHC Advisory, a consulting firm based in New York.

He is a member of Alpha Omega Alpha and has been elected as a Master of the ACP. He has been recognized by Oregon Health Sciences University as Alumnus of the Year (1998) and has been recognized by a number of organizations for both his teaching and leadership skills.

His primary interests include quality improvement, continuing and graduate medical education, and professionalism.

**Elizabeth Eckstrom, M.D., M.P.H.**

Elizabeth is a geriatrician who specializes in promoting a healthy lifestyle in older adults and in educating all health professionals to be competent in the care of older adults. She is Professor of Medicine and Chief of Geriatrics in the Division of General Internal Medicine & Geriatrics at Oregon Health & Science University in Portland, Oregon. She Co-Directs OHSU's Healthy Aging Alliance.

Her research has focused on interprofessional education, tai chi to improve health in older adults, and fall prevention. She also studies the effectiveness of training primary care faculty in geriatrics, and speaks regionally and nationally on strategies to optimally care for older patients in primary care practice.

Personal interests include travel, windsurfing, telemark skiing, gardening, and piano.

**Virginia Tilden, Ph.D., R.N., F.A.A.N.**

Virginia is Professor and Senior Associate Dean for Research in the School of Nursing at OHSU. She earned her undergraduate degree in nursing from Georgetown University and her master's and PhD degrees from the University of California San Francisco. Her postdoctoral certificate in Clinical Bioethics is from the University of Washington School of Medicine. She has been principle investigator of four large NIH-funded studies and PI or co-investigator of numerous foundation and professional organization research grants spanning a 35-year research career. She is the author or co-author of 104 scholarly publications primarily focused on improving end-of-life care and clinical teamwork. She is presently a funded investigator with two research teams: as a measurement specialist with the Program Evaluation Center with the VA's Centers of Excellence in Primary Care and as Co-PI of Reaching Rural Residents with IPE, funded by the National Center for Interprofessional Practice and Education. She has a track record of successfully initiating interprofessional education innovations over the last two decades in multiple faculty, associate dean, and dean roles. As Dean of the College of Nursing at the University of Nebraska Medical Center (2003–2011) she was instrumental in bringing UNMC into the invitation-only Health Professions Education Collaborative. To accelerate the national agenda on collaborative care, in the past five years she served on national advisory committees to advance team-based care, care transitions, primary care transformation, and teaching in patient centered medical homes; this service has been to the American Board of Internal Medicine Foundation, the American College of Physicians, Primary Care Progress, the American Academy of Nursing, and the Society for General Internal Medicine.

**Truman W. Collins, Jr.**

Truman is the son of the founder of the Collins Medical Trust (Truman W. Collins, Sr.), and has been a trustee since 1990. Truman earned his undergraduate degree from Willamette University in 1986 and his Master's degree in Computer Science from Stanford University in 1987. He worked for 25 years as a software developer in the field of electronic design automation.

In addition to serving as Trustee of the Collins Medical Trust, Truman is the President of The Collins Foundation, and a board member of The Collins Companies. He serves as a trustee of Willamette University, and is a board member of Foundations for Better Oregon.

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Maribeth Collins became a trustee in 1964 after the untimely death of her husband and founder of this Trust, Truman W. Collins, Sr. She served as a trustee for 39 years until 2003. She passed away peacefully in the fall of 2017 one month shy of her 99<sup>th</sup> birthday, still engaged with family and friends.

During her tenure as a trustee she saw significant growth in the funding capacity of the Trust. In addition, she witnessed a remarkable period in research beginning only a decade after the discovery of the structure of DNA and ending when many of our funded projects involved identifying the genetic basis for disease.