

To: DCC Members  
From: Steven D. Leach, MD   
Date: September 1, 2023  
Subject: Cancer Center Developmental Funds (Pilot Projects)  
2023 Second Cycle

In 2023 DCC again will fund pilot projects that advance meritorious cancer research. The purpose of developmental funds is to support preliminary studies that demonstrate novel approaches and provide preliminary data necessary for planned grant applications.

Eligibility Criteria: At least one Principal Investigator on a project must be a current Cancer Center Member. Funded investigators (including current Pilot Project PIs) are eligible, but the application should address how the request represents novel work in light of current funding. Priority will be given to projects that clearly include key elements of the DCC strategic plan (e.g., innovation, team science and translational research). In addition to priority score, final funding decisions will seek a set of awards that spans basic, clinical and population-based research, including efforts in prevention and health promotion, patient-centered precision medicine, and optimization of patient outcomes. Please note, DCC now has available additional support restricted to neuro-oncology, and applications that fulfill that restriction will be eligible for award from those additional funds.

In response to growing NCI expectations that designated Centers have robust Community Outreach and Engagement (COE) initiatives, special consideration will be given to research that relates to our COE priority cancers (melanoma, breast cancer, colorectal cancer, lung cancer) or other cancers disproportionately affecting our catchment area of Vermont and New Hampshire. Further consideration will be given to applications that incorporate community engagement in the research (e.g., patient or community advisor(s), Community Engagement Studio, partnerships with local organizations) and applications that include implementation and/or dissemination activities in our catchment. For further information, please:

- See Attachment.
- Schedule a consultation with our Office of COE by emailing Jenna.E.Schiffelbein@dartmouth.edu.

Awards: In 2023, awards are available in the following categories:

*Prouty Pilots:* Available funding totals \$250,000.

*(Individual PIs):* New early-stage cancer investigators (i.e. assistant professor appointment within the last 5 years) individually may apply for one-year of support, up to \$40,000 in direct costs, for a proposal that includes the commitment of an established Cancer Center Member in an unfunded role of mentor.

*(Multiple PIs):* Any Cancer Center Members may apply, for up to \$60,000, for collaborative translational proposals (i.e., that pursue either application of scientific discoveries to clinical practice or community interventions or underlying mechanisms behind observations from patient care or public health). Requests for clearly exploratory work are capped at \$30,000, with \$60,000 requests requiring citation of specific planned grant applications.

*Clinical Research and Population Science:* Available funding exceeds \$200,000.

Pilot projects that propose therapeutic, public health, health care delivery and/or community-based interventional pilots may request up to \$110,000 direct costs. Pilots that leverage Promise Partnership resources are encouraged. In 2023, additional funds are available for pilot phase clinical interventional

trial proposals projected to exceed this cap. These applications need to address why the proposed work involves clinical practice and/or community-based interventions that require the larger award. Renewals of previously funded Prouty awards are permitted, but applications should demonstrate the goals of the original proposal were met. Research proposed should move significantly beyond that proposed in the original grant.

As noted above, currently funded investigators must propose a project that takes work in a new direction. Applications to renew current Prouty Pilot awards are permissible with confirmation original aims were completed and new subsequent directions require additional preliminary data. Given the pilot intent of the awards, projects requiring more than staff effort and consumable costs (e.g., PI salary support and/or equipment purchases) should include line-item justification and cite an institutional commitment to pursuing the results of the work proposed beyond the project award period's support for ongoing costs. Other Expense requests for purchased services outside of a DCC Shared Resource require confirmation from the DCC Shared Resource Director that the service needs to be purchased elsewhere.

Review criteria: Proposals will receive internal peer review, including DCC Program leadership. Criteria include scientific merit, translational emphasis, and likelihood of pilot data necessary for a planned grant application. Applications should address feasibility of the work proposed, but preference will be given to pilot projects testing novel approaches to innovative and high-risk aims. Translational projects may bridge laboratory, clinic, and/or population-based research in either direction. Proposals are encouraged to involve co-investigators from diverse disciplines and multiple DCC Research Programs to demonstrate the translational nature of the work, as long as one co-investigator is a current DCC Member. Interventional studies are encouraged, particularly those that engage a catchment area population. While not required, preference will be given to interventional studies that utilize Community Engagement Studio feedback through the Office of COE. Please note that informational Letters of Intent are required (to plan reviews and not reject submissions), and confirmation will be provided regarding responsiveness to review criteria. In 2023, Letters of Intent also will be reviewed by the DCC Office of Community Outreach and Engagement to advise applicants on potential enhancements to catchment area relevance.

Applications: Proposals should use the attached forms, which begin with a one-page letter of intent and cover sheet, principal investigator biographical sketch, description of the research proposed, and budget justification. The description of the research proposed is limited to 5 pages and must address background, aims, methods, and cancer relevance.

One-page Letters of Intent (to confirm the responsiveness of proposals to award criteria) and applications should be sent to the attention of Robert Gerlach, DCC Research Administrator. Questions should be directed to Mr. Gerlach at 603-646-5474.

**Letters of Intent are due Monday, October 2nd. Applications must be received by Wednesday, November 1st, 2023. Awards are anticipated to be made by January 1.** Awards will be made in two payments, the second at 6 months based on evidence of project progress. Cost extensions/supplements require competitive submission of renewal applications. Acceptance will require confirmation of the intent of recipients to participate in future reporting and presentation of work to our generous public supporters, Friends of Dartmouth Cancer Center, and to our catchment area population, through our Community Outreach and Engagement initiative.

Candidates who do not receive funding will be invited to meet with a mentorship team to help improve the application for subsequent funding rounds.

## Guidance: Community Outreach and Engagement (COE)

Dartmouth Cancer Center’s Office of COE and community reviewers will review the COE section of the applications. The guidance provided below is intended to help scientists in responding to this section. If you would like further assistance, please contact [Jenna.E.Schiffelbein@dartmouth.edu](mailto:Jenna.E.Schiffelbein@dartmouth.edu) to schedule a consultation to discuss your research and find opportunities to maximize your COE section score.

### 1. Relevance/importance to our New Hampshire and Vermont catchment area

Applications that specifically address any of the following top-priority cancers will receive special consideration from the COE perspective.

- Breast (risk factors may include diet, exercise, weight)
- Colorectal/colon/rectal (risk factors may include tobacco, diet, alcohol)
- Lung/bronchus (risk factors may include tobacco, radon)
- Melanoma/skin (risk factors may include UV exposure)

Consideration in the COE section will also be given to applications that address any of the following cancers:

- Generic research that applies to many cancers
- Bladder
- Brain
- Childhood
- Esophagus
- Lymphoma
- Nasopharynx
- Oral Cavity/Pharynx
- Pancreas
- Prostate
- Stomach
- Thyroid
- Uterus/Corpus

### 2. Engagement of community members, patients, or community organizations

The goal is to encourage our scientific community to get input from or partner with community members, patients, and/or organizations in their research. The research is done with community members, patients, and/or organizations as research consultants/partners. Engagement activities should allow them to influence the research, often ‘behind the scenes.’ Engagement is different than participation in a study; for example:

Engagement	Not Engagement
Patients participate in a Community Engagement Studio to provide the scientist advice about their research project (e.g., advice on how to recruit patients into their clinical trial). Please budget \$2,500 if you’d like the COE team to help you with a Studio.	Patients participate in a clinical trial.
The research team collaborates with a community organization such as the American Cancer Society, a community clinic, a local non-profit, etc. to conduct their research, or the organization/organizational representative serves as an advisor for the project.	The research team surveys clinical organizations / organizational representatives about their challenges providing care to patients during the COVID-19 pandemic. The survey responses are part of the actual research data / the organizations are research subjects.
Patients serve as patient partners on the project, attending research team meetings and work alongside the researchers in helping with the research project, such as proving insights on recruitment or relevance of research to the community.	The research team analyzes Medicare claims data to understand how often patients in New Hampshire receive a particular type of cancer treatment.

### 3. Implementation and dissemination in the community

This area is to encourage our scientific community to positively impact our catchment area community through implementation of interventions and/or dissemination of research (outside of academia). The catchment area should benefit from the knowledge gained in our research, especially since Prouty Pilots

are funded by community philanthropy. These activities may take place during the project funding period, or your application may detail plans for doing these activities in the future. Please provide details of your planned activities to allow our community reviewers to conceptualize what you intend to do.

Examples of community dissemination activities could include:

- Speaking with students about your research and/or your career.
  - Note: We have partnerships with existing programs that reach high school and college students. Please email [Lisa.A.Purvis@dartmouth.edu](mailto:Lisa.A.Purvis@dartmouth.edu) to discuss which program(s) may be a right fit for you.
- Promoting your research findings to the community through web/media (e.g., social media, blog, video)
- Sharing at a local conference for primary care providers, nurses, or other healthcare professionals who would benefit from knowing about the research findings
- Attending a community meeting to discuss your research or to share cancer-related information.
- Working with our Community Outreach and Engagement team or the Friends/Prouty team to speak at DCC-sponsored community events

Examples of community implementation activities could include:

- Using the Prouty-funded research findings in which you identified barriers patients have in accessing care to implement programs / policies to address those barriers (e.g., telemedicine program, policy for insurance coverage of telemedicine, transportation program)
- Using the Prouty-funded research findings about cancer screening and working with local primary care providers to increase patients getting screened
- Conducting a community-based intervention as part of the Prouty-funded research project, such as testing an intervention involving sunscreen distribution and education at state parks to see if it increases sun-safe behaviors

## Examples of high scoring COE proposals

**Project Title:** Dartmouth TRAIL Study Pilot: Statistical Design and Recruitment Feasibility

**PIs:** Louise Davies and Tor Tosteson (CPS)

### 1- Relevance/importance to our New Hampshire and Vermont catchment area

The state of New Hampshire has particular interest in thyroid nodules and thyroid cancer detection and management because of known issues related to PFAS- perfluoroalkyl substances contamination in drinking water. PFAS were used in commercial and household materials made between the 1940's and early 2000's to render them resistant to heat, oil, stains grease, and water. Studies in humans have shown changes in thyroid hormone levels associated with exposure, and there are proposed mechanisms by which cancer development could occur, although associations with thyroid cancer have not been conclusive. The state of New Hampshire has identified PFAS along the Seacoast, and in Merrimack, Litchfield and other southern communities.

### 2- Engagement of community members, patients, or community organizations

The TRAIL Study has previously developed a highly engaged steering committee and patient advisory group. The members have been involved in the initial development of the study. These members will contribute to the work proposed here as described above in the Dartmouth Pilot Study. The steering committee has representation from across the country in radiology, endocrinology, general surgery, and otolaryngology – the major clinical specialties involved in the workup and management of thyroid nodules. The patient advisory committee includes both patients who have elected active monitoring and those who have undergone surgery. The included patients have had both aggressive thyroid cancer and less aggressive cancer. We also have engagement from the leadership of the major patient advocacy groups in thyroid cancer (ThyCa: Thyroid Cancer Survivors, Inc., Light of Life, and the THANC Foundation) and we will continue that relationship as we work on refining the study materials and protocol.

We will develop initial draft materials in conjunction with the DHMC research team and our external patient advisory group. Video calls and asynchronous review and comment on the draft materials will comprise the approach for this initial phase. We will then use the Norris Cotton Cancer Center community engagement studio to test their clarity and acceptability, making iterative changes until no new major issues are identified. We will seek a diversity from the sample across age, gender, education, and race/ethnicity. If we experience challenges in achieving the needed diversity from the samples available in our catchment area, we will reach out to our collaborators across the country to ensure we reach saturation in the important dimensions.

### 3- Implementation and dissemination in the community

The TRAIL Study will create actionable evidence that changes national guideline recommendations for the management of thyroid nodules with malignant potential and early-stage thyroid cancer, which accounts for the majority of thyroid cancers in the U.S. The data of the full study will also support modeling of long-term outcomes to support individual treatment decisions as well as broader public health decision making around thyroid cancer care policy.

**Project Title:** PRESS, a novel non-invasive tool for detection and assessment of skin lesions based on protoporphyrin IX (PPIX) fluorescence and the microvascular dynamics of pressing on the tissue

**PIs:** Shane Chapman (TEC) and Arthur Petusseau

### 1- Relevance/importance to our New Hampshire and Vermont catchment area

Nonmelanoma skin cancer (NMSC), including basal cell carcinoma (BCC) and squamous cell carcinoma (SCC) is the most common cancer in New Hampshire and Vermont. Our electronic medical records (eDH) reveal that in the last six months, more than 9,000 patients received a diagnosis of BCC or SCC. Additionally, since sun exposure is the most common risk factor for developing these skin cancers, these cancers tend to occur more frequently on the face and other exposed areas of the body. This fact adds to the psychological burden of the patients as diagnostic procedures of skin sampling and surgical treatments can significantly affect cosmetic appearance.

By providing a non-invasive and reliable diagnostic imaging method, this research aims to directly impact the local population's health by potentially replacing the need for tissue sampling while increasing early detection rates, facilitating timely treatment, helping preserve normal healthy tissue around cancer and thereby reducing the physical and psychological burden of skin cancer.

### 2- Engagement of community members, patients, or community organizations

We are currently collaborating with the COE office to actively **engage in a community engagement studio**. Our objective is to facilitate discussions with a group of skin cancer survivors from the community, aiming to gain a deeper understanding of the challenges associated with the procedure and how to effectively integrate our clinical study into the existing clinical workflow while ensuring patient well-being during these stressful times. Additionally, we are eager to explore the patients' perspectives on clinical research, seeking insights on optimizing communication and identifying their information needs when participating in projects of this nature. This valuable input will greatly assist us in preparing for patient recruitment in the study.

To further enhance our research endeavors, we are planning to **establish a partnership with the COE team by appointing a community research ambassador**. We aim to collaborate with an ambassador who possesses firsthand experience with non-melanoma skin cancer, allowing us to receive ongoing guidance and advice throughout the project's duration. Their valuable input will contribute significantly to the success and relevance of our research objective.

### 3- Implementation and dissemination in the community

-As suggested by our community reviewers, we will partner with DH marketing and communications to develop a video to share our work with the broader community. Also, at the term of the study, we plan on sharing a communication to reveal the outcome of the study. We will work with our ambassador to create a patient-friendly video format.

-Capitalizing on the department of dermatology's numerous initiatives in increasing skin cancer awareness, community education on preventive measures and the importance of periodic skin cancer screening, we will join these initiatives along with other NH/VT Skin Cancer Task Force to engage with dermatologists and other practitioners in our catchment area to disseminate our work and potentially start new collaborations using our approach to reduce burden related to non-melanoma skin cancer.

-At the term of our study, we commit to providing participants with a lay-friendly summary of our results and future plans with help of our Community Research Ambassador.

**Project Title:** Rational combination of endocrine and radiation therapies for ER+ breast cancer

**PIs:** Todd Miller (SiGNs), Lesley Jarvis (TEC), Rongxiao Zhang (TEC)

### 1- Relevance/importance to our New Hampshire and Vermont catchment area

In women in the U.S., breast cancer is the most common cancer type and the leading cause of non-smoking-related death due to cancer. Breast cancer incidence is highest in developed countries. The age-adjusted incidence rates of breast cancer per 100,000 people/year in New Hampshire and Vermont are 143.1 and 132.4, respectively, which are higher than the national rate of 126.840. Thus, breast cancer is a significant threat to health in our region.

### 2- Engagement of community members, patients, or community organizations

If this project is financially supported, the Dartmouth Cancer Center Community Outreach and Engagement (COE) team has agreed to identify a community member from the catchment area who has lived experience with breast cancer to serve as a Community Advisor on our project. We will engage this individual (i) to provide a patient advocate's perspective on tolerance of concomitant endocrine/radiation therapies, (ii) to help ensure that our research question continue to be relevant/important to patients, (iii) to highlight what matters most to patients undergoing treatment, and (iv) to help with translation of preclinical findings into a clinical trial that will appeal to patients. This Community Advisor will also help us design plans for the dissemination of our research findings to the lay public. Upon maturation of our preclinical data, we will work with the COE team to conduct a Community Engagement Studio to get patient/community input on plans for a clinical trial.

### 3- Implementation and dissemination in the community

Co-PIs Miller and Jarvis are regular participants in the DCC Breast Health Education public event held in an evening every October. We will publicly present our latest findings from the proposed project at this event in October 2023. We will also offer to participate in the Hanover High School "STEM Pathways" program to discuss this type of research and our career paths with local high school students; Co-PI Miller participated in this forum in 2019.