

# KNOWLEDGE INTEGRATION SANDPIT

24-26 APRIL 2017

## APPLICATION GUIDELINES



CANCER  
RESEARCH  
UK



NATIONAL  
CANCER  
INSTITUTE

KNOWLEDGE INTEGRATION ACROSS HEALTH DOMAINS, PROFESSIONS,  
AND NATIONS  
TO ADVANCE CANCER PREVENTION

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## 1. EXECUTIVE SUMMARY

Environmental, lifestyle, and behavioral factors are associated with most cancers, contributing to the 8 million annual cancer deaths worldwide. For example, tobacco use, alcohol use, and obesity are associated with increased risk of many types of cancer, while the uptake of healthy behaviors, such as physical activity, reduces the risk of certain cancers.

Despite the breadth of the global cancer epidemic, efforts to generate new insight by integrating knowledge across health domains and behaviors have been limited. Additionally, few cross-national collaborations to improve cancer prevention through behavioral research have been undertaken, and boundaries between individuals working in different disciplines, health domains, and target behaviors have sometimes impeded knowledge integration in the area of cancer prevention.

To address this issue, the US National Cancer Institute (a component of the National Institutes of Health, which is an agency within the U.S. Department of Health and Human Services) and Cancer Research UK (CRUK) are soliciting applications to participate in a “sandpit” (i.e., ideas lab) that will bring together a broad, multidisciplinary group of participants, ranging from scientists to app developers in order to generate innovative ideas for cancer control and prevention. Applicants from a range of academic, industry, and community sectors are welcome.

The three-day sandpit will take place **24-26 April 2017** in Potomac, MD. We anticipate that participants will help define challenge areas and generate novel hypotheses and ideas that can be tested experimentally or through analysis of extant data sources. Sandpit participants will be expected to engage constructively with each other, the event facilitators, the director, and the mentors in order to develop collaborative research ideas. We particularly welcome applications from early- and mid-career individuals interested in contributing their expertise and novel thinking to generate transformative hypotheses and project ideas. Participants will have the opportunity to:

- Network and form collaborations with researchers outside their typical domain and across organizations
- Form collaborative teams and generate project ideas
- Receive NCI and CRUK programmatic guidance

NCI invites prospective participants to apply for participation in the sandpit by **15 February 2017 at 6 PM EST / 11 PM GMT**. The sandpit is an intensive, residential workshop, and participants must attend all three days of the event. By submitting an application, you are committing to complete all three days of the workshop.



## 2. RESEARCH CHALLENGE

Health behaviors often co-occur and have shared determinants at multiple levels (e.g., biological, individual, relational, environmental). Nevertheless, research programs frequently examine and intervene upon single health behaviors without systematically integrating knowledge across behaviors. Through an intensive, interactive, and collaborative experience, the sandpit will facilitate the development of research projects that cut across behavioral domains, professional sectors, and geographic boundaries to address the complicated challenges of cancer control. In particular, this initiative aims to bring together multidisciplinary teams from different national contexts to cultivate new insights across five cancer-related health behaviors: **tobacco use, alcohol consumption, dietary behavior, physical activity, and UV exposure.**

The key health behaviors at the core of this effort may be interrelated by many possible connections. For example, multiple behaviors may be directly linked within the same individual in complicated ways: tobacco users are often more likely to consume alcohol<sup>1</sup> and less likely to adhere to medical regimens<sup>2</sup>; smoking cessation attempts can lead to weight gain, which in turn might reduce motivation to quit.<sup>3,4</sup> These within-person factors illustrate the value of longitudinal methods for understanding such nuanced processes as the behavioral, social, or environmental influences that alter weight gain following weight loss, relapse to substance use after cessation, or even the substitution of one product for another (i.e., combustible tobacco to e-cigarettes). Further, cancer-related health behaviors likely share underlying mechanisms: self-regulation efforts in one behavioral domain contribute to the likelihood of successful regulation in other domains,<sup>5</sup> and failures to prioritize long-term health consequences over immediate benefits can contribute to problematic behaviors such as tobacco use, alcohol consumption, and choosing high-calorie foods.<sup>6</sup> On yet another level, health behaviors are similarly influenced by shared social and environmental determinants, including social norms and cultural influences,<sup>7,8</sup> media exposure ranging from alcohol advertisements to movies that portray unhealthy behaviors,<sup>9</sup> and public policy measures such as taxes that discourage the purchase of sugar-sweetened beverages,<sup>10</sup> alcohol,<sup>11</sup> or tobacco products.<sup>12</sup>

Given the complexity of overlap among and within these health behaviors and their determinants, there is much to be gained by integrating existing knowledge and cultivating new insights that transcend behavioral domains. As the examples above highlight, integrative approaches to achieve such insights may include: (1) the application of knowledge learned in one area (e.g., health domain, professional discipline, national context) to another; (2) the investigation of common mechanisms and determinants across behaviors; (3) the exploration of how behaviors themselves are interrelated. By facilitating new collaborations, we seek to stimulate novel programs of research that use integrative approaches to help advance: (1) our understanding of the mechanisms and causal factors that

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<sup>1</sup> Jessor, R., Jessor, S. L. (1997)

<sup>2</sup> Land, Cronin, Wickerham, et al. (2011)

<sup>3</sup> Grunberg (1997)

<sup>4</sup> Ockene, Emmons, Mermelstein, et al. (2000)

<sup>5</sup> Muraven & Baumeister (2000)

<sup>6</sup> Story, Vlaev, Seymour, Darzi, & Dolan (2014)

<sup>7</sup> Kant & Graubard (2006)

<sup>8</sup> Lynch, Kaplan, & Salonen (1997)

<sup>9</sup> Sargent (2005)

<sup>10</sup> Falbe et al. (2016)

<sup>11</sup> Wagenaar, Tobler, & Komro (2010)

<sup>12</sup> Chaloupka, Straif, & Leon (2011)

shape health behaviors, and (2) the development and implementation of health behavior interventions to prevent and control cancer.

### 3. RESEARCH QUESTIONS

1. How are seemingly distinct cancer-related behaviors interrelated?
2. What are the implications of those interrelations for both positive and negative changes in cancer risk behaviors?
3. How are cancer-related behaviors influenced across individual, social, and environmental levels?
4. How can we learn from behavioral research aimed at controlling other diseases (e.g., diabetes, heart disease) to improve research aimed at reducing the cancer burden?
5. How can we increase our understanding of health behaviors by exploring similarities and differences in determinants and contextual factors across countries (i.e., US and UK)?

### 4. APPLICATION PROCESS

To express interest in participating, please send: (1) your *CV*; (2) the names of two professional *references*; (3) a *cover letter* that outlines your interests in applying for the sandpit; (4) a *visual representation* (e.g., diagram or mental model) that illustrates a conceptual schema of your area of interest; and (5) a *letter of commitment* from your organization or institution.

The *cover letter* should not exceed 800 words, and it should include: your background, interests, and expertise, particularly as they relate to this sandpit topic; your approach to working in a team; and your experience with or interest in stepping outside your area of expertise and thinking creatively and innovatively to develop novel approaches in partnership with individuals you may not know. Applicants should demonstrate the skills, expertise, and capacity for successful collaboration in this intensive, interactive, and fast-paced event. It is strongly advised that applicants do not merely list their achievements (e.g., publications, research experience, funding track record), but rather, use them to demonstrate innovative and collaborative capacity.

The *visual representation* should depict the components and processes that are central to your area of interest (see examples and more information at end). Please caption the diagram with a brief summary that describes the area of interest in language that would be accessible to people with expertise in a different area (no more than 300 words). The visual representation may be drawn by hand and scanned or illustrated electronically and submitted in pdf format.

The *letter of commitment* should include a covering statement from a representative of your organization (e.g., supervisor, manager, or other relevant persons) confirming that, in the event of receiving a seed grant from CRUK, their organization is willing and able to engage in and support a collaborative project. It should acknowledge that no indirect funds will be provided.

#### SUBMISSION DEADLINE

**The submission deadline for completed applications is 15 February 2017, at 6 PM EST/11 PM GMT.** Applications should be emailed to [NCI-CRUK-Sandpit2017@mail.nih.gov](mailto:NCI-CRUK-Sandpit2017@mail.nih.gov). Application receipt will be acknowledged via email within two business days. If you do not receive acknowledgement, please send an email inquiry to be certain your application was received. Applications submitted after the deadline will not be considered.



## ELIGIBILITY

Participants will be selected for the sandpit workshop via expert review of the application materials. All applications received by the deadline will be reviewed by an expert review committee.

Applications are welcome from academic, industry, and community sectors. The range of people selected will be intentionally diverse, and it is intended that a wide range of disciplines, including those from private, public and third sector organizations and community groups will be represented. If you would like to help transform the future of cancer prevention, we invite you to apply, regardless of your expertise or background. We are more interested in new ideas, underpinned by radical and innovative thinking. We regret that, on this occasion, PhD students and applicants based outside of the UK and US are not eligible to apply.

The sandpit is an intensive, residential workshop, and participants must attend all three days of the event. By submitting an application, you are committing to complete all three days of the workshop. Travel and lodging will be provided in accordance with NIH policy.

NCI is committed to providing reasonable accommodations for qualified individuals with a disability.

## 5. PROPOSALS

CRUK will provide a grant opportunity, which will be reviewed, funded, and administered independently by CRUK. Following the sandpit, each invited project team will have four weeks to draft a full feasibility study proposal that covers their group's intended activities as presented at the sandpit. PIs who are not established members of a recognized research organization must be accommodated by a research organization and provided with appropriate facilities to carry out the research as agreed by the Head of the organization in the cover letter. The specific role of each project team member, in terms of their involvement with, and contribution to, the project will be agreed on by the project team (i.e., some members may be named as joint lead investigators or contribute in an advisory capacity, etc.).

Feasibility study proposals will be submitted via CRUK's electronic Grant Management System (eGMS) by 26 May 2017. Feasibility studies will last up to 12 months in duration, starting in August 2017. All awards are subject to CRUK's terms and conditions. CRUK will offer support and advice throughout the lifetime of the project, including quarterly teleconferences with project groups. A report of feasibility outputs will be required by CRUK on completion of the project. Additional guidance on the post-award processes will be made available to successful applicants at the sandpit.

## 6. TIMELINE

- 15 February 2017, at 6 PM EST/11 PM GMT - Deadline for submission of application materials
- Early March 2017 - Applicants notified of outcome
- 24-26 April 2017 - Sandpit event (Potomac, MD)
- 26 May 2017 - Deadline for submission of CRUK Innovation grant proposals
- August 2017 - Feasibility studies commence

## 7. FURTHER INFORMATION

If you have any questions or would like any further information:

**UK applicants** please contact:

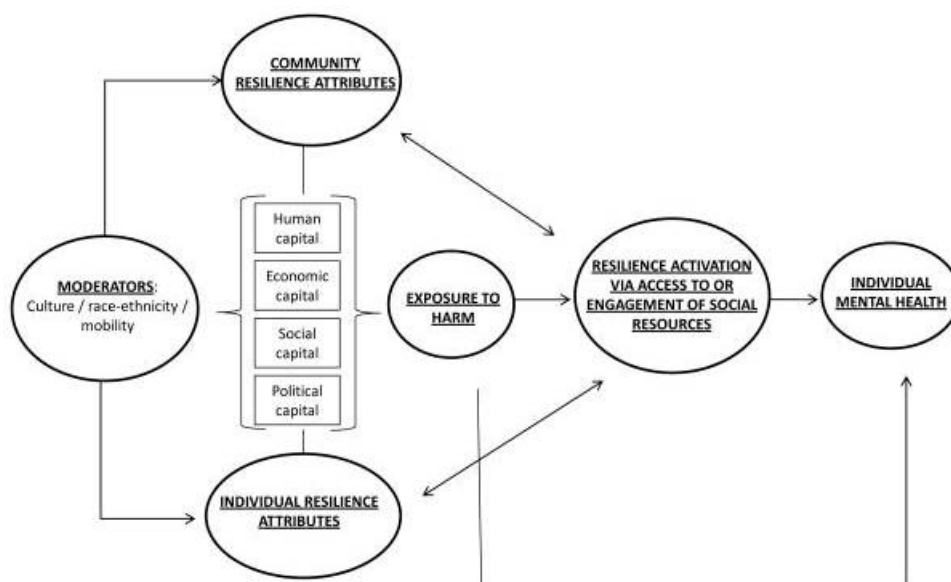
Dr Lucy Davies  
Email: [PRC@cancerorg.uk](mailto:PRC@cancerorg.uk)  
Phone: 020 3469 8824

**US applicants** please contact:

Dr. Kara L. Hall  
Email: [hallka@mail.nih.gov](mailto:hallka@mail.nih.gov)  
Phone: (240) 276-6831

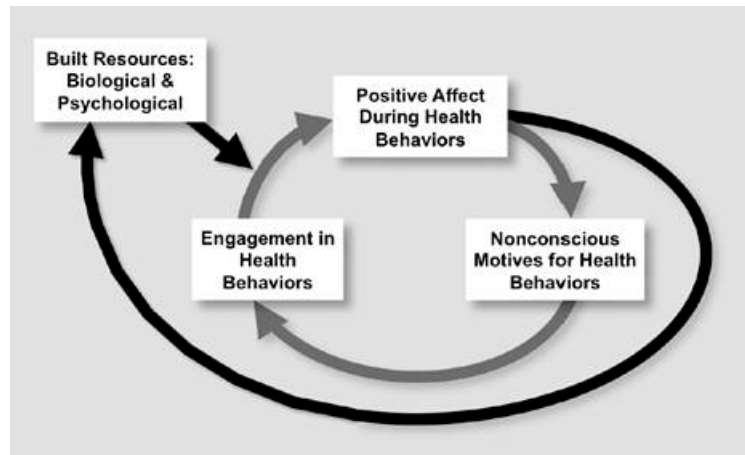
### Additional information pertaining to the visual representation

Applications should include a “mental model” or diagrammatic illustration of one’s area expertise. Although there are many ways to approach this kind of visualization, simple models often include an arrangement of concepts linked by arrows to illustrate relationships among key components of a problem space.



Abramson, Grattan, Mayer, Colten, Arosemena, Rung, & Lichtveld. (2015). The resilience activation framework: A conceptual model of how access to social resources promotes adaptation and rapid recovery in post-disaster settings. *The Journal of Behavioral Health Services & Research*, 42(1), 42-57.





Fredrickson. (2016). Positive affective processes underlying positive health behavior change. Presented at the Inaugural NIH Behavioral and Social Sciences Festival, Bethesda, MD.