Section: Contact Information
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Section: Project Requirements and Description

Group: Requirements to submit AOI
A comprehensive review of previously published data has been completed. Yes
The specific aims are clear and focused. Yes
The investigator has appropriate experience and expertise to develop the concept proposal; if not, has identified a mentor or senior co-investigator. Yes
The investigator agrees to develop an initial draft of the concept proposal within 6 weeks of approval of the AOI and to finalize the concept proposal within 6 months. Yes
Project Title: Exercise and Preventive Chronic Health Conditions and Health Care Utilization in Adult Survivors of Childhood Cancer

Planned research population (eligibility criteria):
1. >5-year cancer survivors who were diagnosed between 1970 and 1986 at age <21 years at one of 26 institutions
2. Histological confirmation of diagnosis with leukemia, Hodgkin disease, non-Hodgkin lymphoma, central nervous system (CNS) malignancies, Wilms tumor, neuroblastoma, soft tissue sarcoma, or bone tumors
3. Survivor participants who completed the baseline exercise item, and at least one of Fu2003 and Fu2007 survey.
4. Baseline age > 18 years, and
5. Participants without any major (Grade 3 to 5) non-cardiac physical health conditions at baseline
6. Siblings participating in the original and expansion cohort
7. Original and Expansion Cohort participants (survivors and siblings) who completed follow-up survey #5

Proposed specific aims:
Primary

To determine the association between vigorous exercise and the (first) composite
Secondary

1. To determine the association between exercise and incidence of individual major (grade 3-5) preventable chronic health conditions, defined as follows:
   - Cardiovascular (i.e., composite incidence of any major event including myocardial infarction, heart failure, and serious arrhythmia)
   - Pulmonary (i.e., composite incidence of any major event including lung fibrosis, pleurisy, and emphysema)
   - Endocrine and reproductive (i.e., composite incidence of any major event including renal failure / dialysis, thyroid issues, and osteoporosis);
   - Cerebrovascular (i.e., composite incidence of any major event including stroke), and
   - Subsequent neoplasms/malignancies (i.e., new primaries).
2. To determine the association between vigorous exercise and the (first) composite incidence of preventable chronic health conditions (of all grades) as well as individual conditions as defined above.
3. To determine the association between change in vigorous exercise and the first composite incidence of major (grade 3-5) preventable health conditions.
4. To compare the association between vigorous exercise and the (first) composite incidence of major (grade 3-5) preventable chronic health conditions in survivors versus the same association in siblings.
5. To determine the association between vigorous exercise early in adulthood as well as change in exercise on health care utilization patterns including physician visits, emergency room visits, medical tests, prescription drug use and hospitalizations.

Will the project require non-CCSS funding to complete? : No
If yes, what would be the anticipated source(s) and timeline(s) for securing funding? :

**Group: Does this project require contact of CCSS study subjects for:**

Additional self-reported information : No
Biological samples : No
Medical record data : No
If yes to any of the above, please briefly describe. :

**Group: What CCSS Working Group(s) would likely be involved? (Check all that apply)**

Second Malignancy : Secondary
Chronic Disease : Primary
Psychology / Neuropsychology :
Genetics :
Cancer Control : Secondary
Epidemiology / Biostatistics :

**Section: Outcomes or Correlative Factors**
Late mortality: **Correlative Factors**
Second Malignancy: **Primary**

**Group: Health Behaviors**
- Tobacco: **Correlative Factors**
- Alcohol: **Correlative Factors**
- Physical activity: **Primary**
- Medical screening: **Secondary, Correlative Factors**
- Other:
  - If other, please specify:

**Group: Psychosocial**
- Insurance:
- Marriage:
- Education: **Correlative Factors**
- Employment: **Correlative Factors**
- Other:
  - If other, please specify:

**Group: Medical Conditions**
- Hearing/Vision/Speech: **Correlative Factors**
- Hormonal systems: **Primary**
- Heart and vascular: **Primary**
- Respiratory: **Primary**
- Digestive: **Primary**
- Surgical procedures: **Correlative Factors**
- Brain and nervous system: **Correlative Factors**
- Other:
  - If other, please specify:

**Group: Medications**
- Describe medications:

**Group: Psychologic/Quality of Life**
- BSI-18:
- SF-36:
- CCSS-NCQ:
- PTS:
- PTG:
- Other:
  - If other, please specify:

**Group: Other**
- Pregnancy and offspring:
Family history:
Chronic conditions (CTCAE v3): **Primary**
Health status: **Primary**

**Group: Demographic**
Age: **Correlative Factors**
Race: **Correlative Factors**
Sex: **Correlative Factors**
Other:
If other, please specify:

**Group: Cancer treatment**
Chemotherapy: **Correlative Factors**
Radiation therapy: **Correlative Factors**
Surgery: **Correlative Factors**

**Section: Anticipated Sources of Statistical Support**
CCSS Statistical Center: **Yes**
Local institutional statistician:
If local, please provide the name(s) and contact information of the statistician(s) to be involved:
Will this project utilize CCSS biologic samples?: **No**
If yes, which of the following?:
If other, please explain:

**Section: Other General Comments**
Other General Comments:
_This concept was developed by Lee Jones, Paul Nathan, and Kevin Oeffinger_