First Name: John
Last Name: Mulvihill
Institution: University of Oklahoma
Address 1: 1200 N Phillips Ave, Suite 12100
Address 2: OU Medical Center, Children’s
City: Oklahoma City
State/Province: OK
Country: United States
Zip: 73104
Phone: 4052718685
Alternate Phone: 4052718685
Email: John-Mulvihill@ouhsc.edu

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: Detecting Germ Cell Mutation by Family DNA Sequencing
Planned research population (eligibility criteria): Select up to 15 families, where one parent is a CCSS survivor, who has at least two biologic children, whose other parent(s) is/are available to participate. Selection criteria might include type of cancer, presence of some late effect, such as an additional malignancy, or a child with an apparently de novo genetic disorder, and type of therapy.
Proposed specific aims: 1) After proving paternity, perform total genomic sequencing on each family member; 2) analyze any new sequence in the offspring to determine parent of origin and correlate the type of mutation with parental exposures.
Will the project require non-CCSS funding to complete?: Yes
If yes, what would be the anticipated source(s) and timeline(s) for securing funding?: NIH R01, application October 5, 2010, earliest funding July 2011. Reapplication may be necessary. Or, an institution may wish to apply intramural resources to speed up the project.

Does this project require contact of CCSS study subjects for . . .

Additional self-reported information: Yes
Biological Samples: Yes
Medical record data: Yes
If yes to any of the above, please briefly describe.: Ideally, families would be examined for dysmorphisms, family history collected, blood drawn, and sperm sample requested.
What CCSS Working Group(s) would likely be involved? (Check all that apply)

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

To describe the anticipated scope of the study, please indicate the specific CCSS data to be included as **outcome** (primary or secondary) or **correlative factors**. (Check all that apply)

- Late mortality: Correlative Factors
- Second Malignancy: Correlative Factors

**Health Behaviors**

- Tobacco: Correlative Factors
- Alcohol: Correlative Factors
- Physical activity:
- Medical screening:
- Other:
  - If other, please specify:

**Psychosocial**

- Insurance:
- Marriage:
- Education:
- Employment:
- Other:
  - If other, please specify:

**Medical conditions**

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

Describe medications:

Pregnancy and offspring: Primary
Family History: Correlative Factors

Psychologic/Quality of Life

BSI-18:
SF-36:
CCSS-NCQ:
PTS:
PTG:
Other:
If other, please specify:

Chronic conditions (CTCAE v3):
Health status:

Demographic

Age: Correlative Factors
Race:
Sex: Correlative Factors
Others:
If others, please specify:

Cancer treatment

Chemotherapy: Correlative Factors
Radiation therapy: Correlative Factors
Surgery: Correlative Factors

Anticipated sources of statistical support

CCSS Statistical Center:
Local institutional statistician: Yes
If local, please provide the name(s) and contact information of the statistician(s) to be involved.: A genomic biostatistician and bioinformatician to be named and paid on grant
Will this project utilize CCSS biologic samples?: Yes
If yes, which of the following?

Buccal cell DNA:  
Peripheral blood: Yes  
Lymphoblastoid cell lines:  
Second malignancy pathology samples:  
Other requiring collection of samples: Yes  
If other, please explain: New blood for DNA on survivors, offspring, and other biologic parent

Other general comments: Genetics WG endorsed at June meeting, realizing this work is new territory for CCSS to engage family members of subjects other than siblings.