**Section: Contact Information**

First Name: Neel  
Last Name: Bhatt  
Institution: St. Jude Children's Research Hospital  
Address 1: 262 Danny Thomas Place, Mail Stop 735  
City: Memphis  
State/Province/Region: TN  
Country: US  
Zip/Postal Code: 38105  
Phone Number: 9015950570  
Email Address: neel.bhatt@stjude.org

**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**: Temporal Changes in Employment Outcomes of Survivors of Childhood Cancer: A Report from the Childhood Cancer Survivor Study (CCSS)

**Planned research population (eligibility criteria)**:

**All survivors who were ≥25 years of age at their most recent questionnaire completion**

**Proposed specific aims**:

**Aim 1**: To describe the employment outcomes in adult survivors of childhood cancer (including expansion cohort) and compare with their siblings (employment outcomes will be examined in survivors and siblings ≥25 years of age at their most recent questionnaire completion)

Hypothesis: Compared to siblings, survivors will have lower full-time/ part-time employment status, and higher unemployment rates due to disability/ illness, retirement, and seeking employment.

**Aim 2a**: To evaluate the temporal trends of employment outcomes in adult survivors of childhood cancer diagnosed from 1970-1999 by decade of diagnosis (i.e. 1970-79, 1980-89, 1990-1999) and compare with their siblings

Hypothesis: Unemployment rates will continue to be higher in survivors than the sibling controls during all three decades, however the difference in unemployment rates between survivors and age-, sex-matched siblings will be smaller for more recent decades (1980-89; 1990-99) compared to the earlier decade (1970-79).

**Aim 2b**: To evaluate the temporal trends of employment outcomes in adult survivors of childhood hematopoietic cell transplant (HCT) and compare with childhood cancer
survivors who did not undergo HCT and sibling control group by decade of diagnosis

Hypothesis: Survivors of childhood HCT will be more likely to be unemployed compared to non-HCT cancer survivors and siblings

Aim 3: To determine patient-, disease-, and treatment-related factors associated with the unemployment in long-term survivors of childhood cancer stratified by the treatment era

Hypothesis: There will be a differential effect of disease diagnosis and/or treatment modality on unemployment when studied across three decades

Aim 4: Examine associations between unemployment with chronic health conditions in survivors of childhood cancer stratified by treatment era compared with siblings

Hypothesis: Compared to siblings, survivors in every era with more and/ or severe chronic conditions (i.e. Common Terminology Criteria for Adverse Events [CTCAE]- more than 1 condition and/ or grades 3 or 4) will be more likely to report unemployment compared to survivors with none or less severe conditions (CTCAE less than or equal to 1 condition and/ or grades 1 or 2).

Aim 5a: To assess longitudinal changes in unemployment rates in a subset of childhood cancer survivors from 2007 to 2014 compared to siblings

Hypothesis: Survivors who reported to be unemployed at 2007 follow-up questionnaire will continue to be unemployed at the most recent follow-up questionnaire (2014) compared to siblings

Aim 5b: To study factors predicting persistent unemployment or change in employment (e.g. employed to unemployed) from 2007 to 2014

Hypothesis: Survivors with reported severe chronic health condition at 2007 follow-up survey will be more likely to report persistent unemployment at the most recent follow-up survey. Survivors reporting severe chronic health condition at 2014 follow-up survey will be more likely to report change in employment (i.e. employed to unemployed) from 2007 to 2014 survey

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

**Section: Outcomes or Correlative Factors**

Late mortality: **Correlative Factors**
Second Malignancy: **Correlative Factors**

**Group: Health Behaviors**
Tobacco:
Alcohol:
Physical activity:
Medical screening:
Other:
If other, please specify:

**Group: Psychosocial**
Insurance: **Correlative Factors**
Marriage: **Correlative Factors**
Education: **Correlative Factors**
Employment: **Primary**
Other: **Correlative Factors**
If other, please specify: annual household income, number of people supported on income, personal income

**Group: Medical Conditions**
Hearing/Vision/Speech:
Hormonal systems:
Heart and vascular:
Respiratory:
Digestive:
Surgical procedures:
Brain and nervous system:
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): Correlative Factors
Health status: Correlative Factors

**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:
  - I agree to share this information with St. Jude: Yes