Project Title: Exposure-specific absolute risks of second primary cancer and cardiovascular disease for five-year survivors of childhood Hodgkin’s lymphoma

Planned research population (eligibility criteria): Five-year survivors of Hodgkin's lymphoma diagnosed before age 21 who are participants of the Childhood Cancer Survivor Study

Proposed specific aims: Second primary cancers and cardiovascular events are some of the most frequent and serious late-effects experienced by survivors of childhood Hodgkin’s lymphoma (HL) (1). A number of association studies have identified demographic and treatment-related risk factors for second cancers and cardiovascular disease in survivors of childhood HL (2-3).

Absolute risk is the probability that an individual with a specific health and exposure history will experience an adverse event within a defined time interval given the presence of competing events. Relative risk associations have limited clinical value because they are insufficient to determine a survivor’s actual probability of experiencing an event. Some studies have reported cumulative incidence by childhood cancer diagnosis for specific second cancers and cause-specific mortality (4-7). These represent the average absolute risk over combinations of risk factors in the given subpopulation of survivors. Absolute risks as functions of risk factors for leading adverse outcomes in survivors have not been thoroughly considered. In this study, using data from the Childhood Cancer Survivor Study, we will quantify absolute risks for second primary cancers and for cardiovascular disease of HL survivors (n~3,000), based on demographic, treatment characteristics, and modifiable factors, such as smoking, alcohol consumption, and physical activity, whose impact on risk is unclear. Both self-reported cardiovascular disease and cardiovascular-related mortality will be examined. The absolute risk framework is relevant for clinical decision-making because it provides an individualized approach to risk assessment.

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.: 

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

Second Malignancy: Primary
Chronic Disease: Secondary
Psychology / Neuropsychology:
Genetics:
Cancer Control: Secondary
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)
<table>
<thead>
<tr>
<th>Late mortality: Secondary</th>
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<tbody>
<tr>
<td>Second Malignancy: Primary</td>
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<table>
<thead>
<tr>
<th>Health Behaviors</th>
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<tbody>
<tr>
<td>Tobacco: Correlative Factors</td>
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<tr>
<td>Alcohol: Correlative Factors</td>
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<tr>
<td>Physical activity: Correlative Factors</td>
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<tr>
<td>Medical screening: Other: If other, please specify:</td>
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<table>
<thead>
<tr>
<th>Psychosocial</th>
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<tbody>
<tr>
<td>Insurance:</td>
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<tr>
<td>Marriage:</td>
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<tr>
<td>Education:</td>
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<tr>
<td>Employment: Other: If other, please specify:</td>
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<table>
<thead>
<tr>
<th>Medical conditions</th>
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<tbody>
<tr>
<td>Hearing/Vision/Speech:</td>
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<tr>
<td>Hormonal systems:</td>
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<tr>
<td>Heart and vascular: Primary Respiratory:</td>
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<tr>
<td>Digestive:</td>
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<tr>
<td>Surgical procedures:</td>
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<tr>
<td>Brain and nervous system: Other: If other, please specify:</td>
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<thead>
<tr>
<th>Medications</th>
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<tbody>
<tr>
<td>Describe medications:</td>
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<table>
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<tr>
<th>Pregnancy and offspring:</th>
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<tr>
<td>Family History:</td>
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| 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: Correlative Factors
Sex: Correlative Factors
Others:
If others, please specify:

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

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.: Stephanie Kovalchik will be the lead statistician on this project.
Will this project utilize CCSS biologic samples?: No
If yes, which of the following?
Buccal cell DNA:
Peripheral blood:
Lymphoblastoid cell lines:
Second malignancy pathology samples:
Other requiring collection of samples:
If other, please explain:
Other general comments: