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**Project Title** A study on computational dose reconstruction for breast cancer patients after Hodgkin lymphoma: dose comparison and sensitivity study  
**Planned research population (eligibility criteria)** Patients in CCSS who developed breast cancer following Hodgkin lymphoma and were included in recently published case-control study  
**Proposed specific aims** • To reconstruct the organ doses of the breast cancer patients after Hodgkin Lymphoma using hybrid computational human phantoms as well as radiation treatment machines (Co-60 and linear accelerator) which will be incorporated into Monte Carlo radiation transport code • To perform a sensitivity study for breast cancer patients where the effect of breast tumor location, lung block location, and breast size on the resulting tumor/organ dose will be systematically investigated using Monte Carlo simulation  
**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?**

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

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

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

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**Second Malignancy**  
Primary - No                      Secondary - Yes

**Chronic Disease**  
Primary - No                      Secondary - No

**Reproductive**  
Primary - No                      Secondary - No

**Neurologic**  
Primary - No                      Secondary - No

**Psychology / Neuropsychology**  
Primary - No                      Secondary - No

**Genetics**  
Primary - No                      Secondary - No

**Cancer Control**

Primary - No

Secondary - No

**Epidemiology / Biostatistics**

Primary - Yes

Secondary - No

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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)

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**Late mortality**

Primary - No

Secondary - No

Correlative Factors - No

**Second Malignancy**

Primary - Yes

Secondary - No

Correlative Factors - Yes

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Health Behaviors

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**Tobacco**

Primary - No

Secondary - No

Correlative Factors - No

**Alcohol**

Primary - No

Secondary - No

Correlative Factors - No

**Physical activity**

Primary - No

Secondary - No

Correlative Factors - No

**Medical screening**

Primary - No

Secondary - No

Correlative Factors - No

**Other**

Primary - No

Secondary - No

Correlative Factors - No

**If other, please specify**

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Psychosocial

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**Insurance**

Primary - No

Secondary - No

Correlative Factors - No

**Marriage**

Primary - No

Secondary - No

Correlative Factors - No

**Education**

Primary - No

Secondary - No

Correlative Factors - No

**Employment**

Primary - No

Secondary - No

Correlative Factors - No

**Other**

Primary - No

Secondary - No

Correlative Factors - No

**If other, please specify**

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Medical conditions

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**Hearing/Vision/Speech**

Primary - No

Secondary - No

Correlative Factors - No

**Hormonal systems**

Primary - No

Secondary - No

Correlative Factors - No

**Heart and vascular**

Primary - No

Secondary - No

Correlative Factors - No

**Respiratory**

Primary - No

Secondary - No

Correlative Factors - No

**Digestive**

Primary - No

Secondary - No

Correlative Factors - No

**Surgical procedures**

Primary - No

Secondary - No

Correlative Factors - No

**Brain and nervous system**

Primary - No

Secondary - No

Correlative Factors - No

**Other**

Primary - No

Secondary - No

Correlative Factors - No

**If other, please specify**

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Medications

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**Describe medications**

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**Pregnancy and offspring**

Primary - No

Secondary - No

Correlative Factors - No

**Family History**

Primary - No

Secondary - No

Correlative Factors - No

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Psychologic/Quality of Life

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**BSI-18**

Primary - No

Secondary - No

Correlative Factors - No

**SF-36**

Primary - No

Secondary - No

Correlative Factors - No

**CCSS-NCQ**

Primary - No

Secondary - No

Correlative Factors - No

**PTS**

Primary - No

Secondary - No

Correlative Factors - No

**PTG**

Primary - No

Secondary - No

Correlative Factors - No

**Other**

Primary - No

Secondary - No

Correlative Factors - No

**If other, please specify**

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**Chronic conditions (CTCAE v3)**

Primary - No

Secondary - No

Correlative Factors - No

**Health status**

Primary - No

Secondary - No

Correlative Factors - No

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**Demographic**

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**Age**

Primary - Yes

Secondary - No

Correlative Factors - No

**Race**

Primary - No

Secondary - No

Correlative Factors - No

**Sex**

Primary - Yes

Secondary - No

Correlative Factors - No

**Others**

Primary - No

Secondary - No

Correlative Factors - No

**If others, please specify**

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Cancer treatment

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**Chemotherapy**

Correlative Factors - No

**Radiation therapy**

Correlative Factors - Yes

**Surgery**

Correlative Factors - No

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**Anticipated sources of statistical support**

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**CCSS Statistical Center** Yes**Local institutional statistician** Yes**If local, please provide the name(s) and contact information of the statistician(s) to be involved.** Peter Inskip (phone: 301-594-7515; e-mail: inskippe@mail.nih.gov) Note: aim 1 is technical in nature and will not involve statistical analysis**Will this project utilize CCSS biologic samples?** No

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**If yes, which of the following?**

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**Buccal cell DNA****Peripheral blood**

**Lymphoblastoid cell lines**  
**Second malignancy pathology samples**  
**Other requiring collection of samples**  
**If other, please explain**

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**Other general comments**