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Project Requirements and Description

Project Title

Cancer Outcomes Microsimulation for Pediatric and Adolescent Survivorship (COMPASS): Modeling Modifiable Risk and Prevention to Improve Long-term Health After Childhood Cancer

Planned research population (eligibility criteria)

5-year survivors diagnosed between 1970 and 1999.

Proposed specific aims

The overall objective of this study is to estimate the potentially avoidable lifetime burden of late effects associated with obesity and smoking and evaluate the benefits and risks of interventions targeting these factors among childhood cancer survivors. We will extend the Cancer Outcomes Microsimulation for Pediatric and Adolescent Survivorship (COMPASS) model to incorporate lifetime BMI and smoking histories and their associations with late-effect risks. We will focus on cardiovascular disease (i.e., heart failure, myocardial infarction/coronary artery disease, valvular disease, stroke), and subsequent malignant neoplasms (i.e., breast cancer, colorectal cancer, sarcomas, glial tumors). We hypothesize that the potential lifetime benefits of modifying BMI and smoking will vary substantially by prior cancer treatment exposures, intervention timing, and the magnitude and persistence of risk-factor modification. Specific aims are as follows:

Aim 1. Extend and validate COMPASS to incorporate the effects of BMI and smoking on lifetime chronic health condition (CHC) risks.
Aim 2. Quantify the potentially avoidable long-term CHC burden of obesity and smoking after childhood cancer
Aim 3. Estimate the lifetime benefits and risks of realistic interventions targeting obesity and smoking among survivors, including GLP-1's.

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?

I will submit a R01 application to NCI for Feb 2027 due date.

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? (Select all that apply)

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

Outcomes or Correlative Factors

	Primary	Secondary	Correlative Factors
Late Mortality	✓		
Second Malignancy	✓		

Health Behaviors

	Primary	Secondary	Correlative Factors
Tobacco	✓		
Alcohol			
Physical Activity			
Medical Screening			
Other	✓		

If other, please specify

BMI

Psychosocial

	Primary	Secondary	Correlative Factors
Insurance			
Marriage			
Education			
Employment			
Other			

If other, please specify

Medical Conditions

	Primary	Secondary	Correlative Factors
Hearing/Vision/Speech			
Hormonal Systems			
Heart and Vascular	✓		
Respiratory			
Digestive			
Surgical Procedures			
Brain and Nervous System			
Other			

Medications

Describe medications

Possible use of GLP-1's

Psychologic/Quality of Life

	Primary	Secondary	Correlative Factors
BSI-18			
SF-36			
CCSS-NCQ			
PTS			
PTG			
Other			

If other, please specify

Other

	Primary	Secondary	Correlative Factors
Pregnancy and Offspring			
Family History			
Chronic Conditions (CTCAE v3)	✓		
Health Status			

Demographic

	Primary	Secondary	Correlative Factors
Age	✓		
Race	✓		
Sex	✓		
Other	✓		

If other, please specify

Birth cohort

Cancer Treatment

	Correlative Factors
Chemotherapy	✓
Radiation Therapy	✓
Surgery	✓

Anticipated Sources of Statistical Support

CCSS Statistical Center	Yes
Local Institutional Statistician	No

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

Other General Comments

This is a proposed Ancillary Study for which I will seek funding from NCI.
