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Contact Information

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Project Requirements and Description

Requirements to submit AOI

Requirements to submit AOI (all answers must be "yes" to proceed)

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	Identifying Predictors of Psychological Distress in Childhood Cancer Survivors: A Machine Learning Approach

Planned research population (eligibility criteria)

Planned research population (eligibility criteria): We plan to utilize CCSS's retrospective cohort of childhood cancer survivors, at least five years from diagnosis, >18 years of age, diagnosed prior to 21 years of age as a discovery cohort for our machine learning algorithm. We plan to utilize SJLIFE's cohort of childhood cancer survivors, at least five years from diagnosis, >18 years of age, diagnosed prior to 21 years of age as a validation cohort for our machine learning algorithm.

Proposed specific aims

Utilizing retrospective cohort data from CCSS and SJLIFE, our aims are as follows:

1.   Test various machine learning algorithms to build a machine learning model to predict psychological distress.
2.   Identify at least 20 demographic, psychosocial, health behavior, chronic health conditions, and cancer-specific disease and treatment variables in the dataset as predictors of psychological distress.
3.   identify strength of potential predictors that reflects contribution of each variable to predict psychological distress.

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?

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

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

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

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

Agree   I agree to share this information with St. Jude