Section: Contact Information

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Section: Project Requirements and Description

Project Title: Statistical Methods for GWAS Analysis of Recurrent-event Data in Cancer Study

Planned research population (eligibility criteria):
CCSS participants with genetic data

Proposed specific aims:
Aim 1: Develop a semiparametric method with proportional mean model for GWAS analysis of recurrent-event data on each SNP, test it by simulation studies and apply it to the CCSS data.

Aim 2: Develop a pathway analyses method for recurrent event phenotype/outcome and applied to CCSS data, and validate the results in SJLIFE data.

Aim 3: Develop implementation procedures and an R package for the statistical techniques developed in objectives 1 - 2 for the wide application of the research results.

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.
It is a secondary data analysis. Only existing data is needed.

Group: What CCSS Working Group(s) would likely be involved? (Check all that apply)
Second Malignancy:
Chronic Disease:
Psychology / Neuropsychology:
Genetics: Secondary
Cancer Control:
Epidemiology / Biostatistics: Primary

Section: Outcomes or Correlative Factors
Late mortality:
Second Malignancy: Primary

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

Group: Psychosocial
Insurance:
Marriage:
Education:
Employment:
Other:
If other, please specify:

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):
Health status:

**Group: Demographic**
Age:
Race:
Sex:
Other:
If other, please specify:

**Group: Cancer treatment**
Chemotherapy:
Radiation therapy:
Surgery:

**Section: 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:
Liang Zhu
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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: