

## **PARTICIPATING CENTERS**

*St. Jude Children's Research Hospital*  
Memphis, TN

*Ann & Robert Lurie Children's Hospital of Chicago*  
Chicago, IL

*Children's Healthcare of Atlanta/Emory University*  
Atlanta, GA

*Children's Hospital at Stanford*  
Palo Alto, CA

*Children's Hospital Colorado*  
Aurora, CO

*Children's Hospital of Los Angeles*  
Los Angeles, CA

*Children's Hospital of Orange County*  
Orange, CA

*Children's Hospital of Philadelphia*  
Philadelphia, PA

*Children's Hospital of Pittsburgh*  
Pittsburgh, PA

*Children's Hospitals and Clinics of Minnesota*  
Minneapolis, MN

*Children's National Medical Center*  
Washington, DC

*City of Hope National Medical Center*  
Duarte, CA

*Cook Children's Hematology-Oncology Center*  
Fort Worth, TX

*Dana-Farber Cancer Institute/Children's Hospital*  
Boston, MA

*Mattel Children's Hospital at UCLA*  
Los Angeles, CA

*Mayo Clinic*  
Rochester, MN

*Memorial Sloan-Kettering Cancer Center*  
New York, NY

*Miller Children's Hospital*  
Long Beach, CA

*Nationwide Children's Hospital*  
Columbus, OH

*Riley Hospital for Children - Indiana University*  
Indianapolis, IN

*Roswell Park Cancer Institute*  
Buffalo, NY

*Seattle Children's Hospital*  
Seattle, WA

*St. Louis Children's Hospital*  
St. Louis, MO

*Texas Children's Hospital*  
Houston, TX

*Toronto Hospital for Sick Children*  
Toronto, ON

*UAB/The Children's Hospital of Alabama*  
Birmingham, AL

*University of California at San Francisco*  
San Francisco, CA

*University of Chicago Comer Children's Hospital*  
Chicago, IL

*University of Michigan - Mott Children's Hospital*  
Ann Arbor, MI

*University of Minnesota*  
Minneapolis, MN

*UT-Southwestern Medical Center*  
Dallas, TX

*U.T.M.D. Anderson Cancer Center*  
Houston, TX

**Investigator Meeting**  
**May 27, 2022**

# CCSS

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## Childhood Cancer Survivor Study

*An NCI-funded resource for  
outcome and intervention research*

*U24 CA55727*

**<http://ccss.stjude.org>**

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## Childhood Cancer Survivor Study

# 2022 CCSS Investigator Meeting Agenda

### Friday, May 27 – All times Central Daylight Time

9:00-9:30a	Welcome, Introduction to CCSS and PI report <i>Greg Armstrong, MD, MSCE – St. Jude Children’s Research Hospital, Memphis, TN</i>
9:30-9:40	Coordinating Center Report <i>Aaron McDonald, PhD – St. Jude Children’s Research Hospital, Memphis, TN</i>
9:40-9:50	Data and Statistics Center Report <i>Wendy Leisenring, ScD – Fred Hutchinson Cancer Center, Seattle, WA</i>
9:50-10:00	Radiation Dosimetry Center Report <i>Rebecca Howell, MD – MD Anderson Cancer Center, Houston, TX</i>
10:00-11:00	Research Presentations
1.	CHIIP and SALSA: CCSS Ancillary Intervention Studies to Reduce Cardiovascular Risk in Survivors <i>Eric Chow, MD, MPH – Fred Hutchinson Cancer Center, Seattle, WA</i>
2.	Modifiable Risk Factors and Late Mortality Among Five-Year Survivors of Childhood Cancer <i>Stephanie Dixon, MD, MPH – St. Jude Children’s Research Hospital, Memphis, TN</i>
3.	Genomic Predisposition to Subsequent Neoplasms After Childhood Cancer <i>Lindsay Morton, PhD – National Cancer Institute, Rockville, MD</i>
4.	Symptom Profiles, Health Care Utilization, and Health Behaviors in Long-Term Survivors of Childhood Cancer <i>Rachel Tillery Webster, PhD – St. Jude Children’s Research Hospital, Memphis, TN</i>
5.	Developing, Assessing and Implementing the Health Insurance Navigation Tools Intervention <i>Elyse Park, PhD, MPH – Harvard Medical School, Boston, MA</i> <i>Anne Kirchhoff – University of Utah, Salt Lake City, UT</i>

11:00-11:20	<b>Cancer Control and Intervention Working Group</b> <i>Paul Nathan, MD, MSc - The Hospital for Sick Children, Toronto, Ontario, Canada</i> <i>Claire Snyder, PhD – Johns Hopkins University</i>
11:20-11:40	<b>Genetics Working Group</b> <i>Smita Bhatia, MD, MPH - University of Alabama, Birmingham, AL</i>
11:40-12:00p	<b>Epidemiology/Biostatistics Working Group</b> <i>Yutaka Yasui, PhD - St. Jude Children’s Research Hospital, Memphis, TN</i>
12:00-12:30	<b>Lunch Break</b>
12:30-12:50	<b>Psychology Working Group</b> <i>Kevin Krull, PhD - St. Jude Children’s Research Hospital, Memphis, TN</i>
12:50-1:10	<b>Chronic Disease Working Group</b> <i>Eric Chow, MD, MPH - Fred Hutchinson Cancer Center, Seattle, WA</i> <i>Kevin Oeffinger, MD - Duke University, Durham, NC</i>
1:10-1:30	<b>Second Neoplasm Working Group</b> <i>Joe Neglia, MD, MPH - University of Minnesota, Minneapolis, MN</i> <i>Lucie Turcotte, MD, MPH - University of Minnesota, Minneapolis, MN</i>
1:30-2:30	<b>Working Group Breakout Sessions (concurrent meetings)</b> <ul style="list-style-type: none"> <li>• Chronic Disease Working Group</li> <li>• Genetics Working Group</li> <li>• Epidemiology/Biostatistics Working Group</li> </ul>
2:30-3:30	<b>Working Group Breakout Sessions (concurrent meetings)</b> <ul style="list-style-type: none"> <li>• Cancer Control Working Group</li> <li>• Psychology Working Group</li> <li>• Second Neoplasm Working Group</li> </ul>
3:30	<b>Adjourn</b>

# CCSS Institutions and Investigators

St. Jude Children's Research Hospital, Memphis, TN	Greg Armstrong, MD, MSCE <sup>#‡</sup> , Melissa Hudson, MD <sup>*‡‡</sup> , Leslie Robison, PhD <sup>‡</sup> , Daniel Green, MD <sup>‡</sup> , Kevin Krull, PhD <sup>‡</sup> , Aaron McDonald, PhD <sup>‡</sup> , Kiri Ness, PhD <sup>‡</sup> , Yutaka Yasui, PhD <sup>‡</sup>	
Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL	Jennifer Reichek, MD, MSW <sup>*</sup>	
Children's Healthcare of Atlanta/Emory University, Atlanta, GA	Karen Effinger, MD, MS <sup>*</sup> , Ann Mertens, PhD <sup>‡</sup>	
Children's Hospitals and Clinics of Minnesota, Minneapolis, MN	Katharine Rae Lange, MD <sup>*</sup>	
Children's Hospital Colorado, Denver, CO	Jenna Sopfe, MD, MS <sup>*</sup> , Michael Arnold, MD, PhD <sup>‡</sup>	
Children's Hospital Los Angeles, Los Angeles, CA	David Freyer, DO, MS <sup>*</sup>	
Children's Hospital of Orange County, Orange, CA	Lilibeth Torno, MD <sup>*</sup>	
Children's Hospital of Philadelphia, Philadelphia, PA	Jill Ginsberg, MD <sup>*</sup>	
Children's Hospital of Pittsburgh, Pittsburgh, PA	Jean Tersak, MD <sup>*</sup>	
Children's National Medical Center, Washington, DC	Jennifer Dean, MD <sup>*</sup>	
Cincinnati Children's Hospital Medical Center, Cincinnati, OH	Stella Davies, MD, PhD <sup>*‡</sup>	
City of Hope Medical Center, Los Angeles, CA	Saro Armenian, DO, MPH <sup>*‡</sup>	
Cook Children's Medical Center, Ft. Worth, TX	Donald Beam, MD <sup>*</sup>	
Dana-Farber Cancer Institute/Children's Hospital, Boston, MA	Lisa Diller, MD <sup>*‡</sup>	
Fred Hutchinson Cancer Center, Seattle, WA	Wendy Leisenring, ScD <sup>*‡</sup>	
Hospital for Sick Children, Toronto, ON	Paul Nathan, MD <sup>*‡</sup>	
Johns Hopkins University, Baltimore, MD	Claire Snyder, PhD, MHS <sup>‡</sup>	
Mayo Clinic, Rochester, MN	Carola Arndt, MD <sup>*</sup>	
Memorial Sloan-Kettering Cancer Center, New York, NY	Danielle Friedman, MD <sup>*</sup> , Charles Sklar, MD <sup>‡</sup>	
Miller Children's Hospital, Long Beach, CA	Jerry Finklestein, MD <sup>*</sup>	
National Cancer Institute, Bethesda, MD	Nita Seibel, MD <sup>‡</sup> , Lindsay Morton, PhD <sup>‡</sup>	
Nationwide Children's Hospital, Columbus, OH	Randy Olshefski, MD <sup>*</sup>	
Riley Hospital for Children, Indianapolis, IN	Terry Vik, MD <sup>*</sup>	
Roswell Park Cancer Institute, Buffalo, NY	Denise Rokitka, MD, MPH <sup>*</sup>	
St. Louis Children's Hospital, St. Louis, MO	Robert Hayashi, MD <sup>*</sup>	
Seattle Children's Hospital, Seattle, WA	Scott Baker, MD <sup>*</sup> , Eric Chow, MD, MPH <sup>‡</sup>	
Stanford University School of Medicine, Stanford, CA	Tanja Gruber, MD, PhD <sup>*</sup>	
Texas Children's Hospital, Houston, TX	Zoann Dreyer, MD <sup>*</sup>	
University of Alabama, Birmingham, AL	Kimberly Whelan, MD, MSPH <sup>*</sup> , Smita Bhatia, MD <sup>‡</sup>	
University of California-Los Angeles, CA	Jacqueline Casillas, MD, MSHS <sup>*</sup>	
University of California-San Francisco, CA	Robert Goldsby, MD <sup>*</sup>	
University of Chicago, Chicago, IL	Tara Henderson, MD, MPH <sup>*</sup>	
University of Michigan, Ann Arbor, MI	Raymond Hutchinson, MD <sup>*</sup>	
University of Minnesota, Minneapolis, MN	Karim Sadak, MD, MPH, MSE <sup>*</sup> , Joseph Neglia, MD, MPH <sup>‡</sup> , Lucie Turcotte, MD, MPH <sup>‡</sup>	
UT-Southwestern Medical Center, Dallas, TX	Daniel Bowers, MD <sup>*</sup>	
U.T.M.D. Anderson Cancer Center, Houston, TX	Louise Strong, MD <sup>*</sup> , Rebecca Howell, PhD <sup>‡</sup>	
<sup>*</sup> Institutional Principal Investigator	<sup>#</sup> Principal Investigator <sup>+</sup> Co-Principal Investigator	<sup>‡</sup> Member CCSS Steering Committee

## CCSS External Advisory Committee

- Garnet Anderson, PhD  
Fred Hutchinson Cancer Research Center  
Seattle, WA  
[garnet@WHI.org](mailto:garnet@WHI.org)
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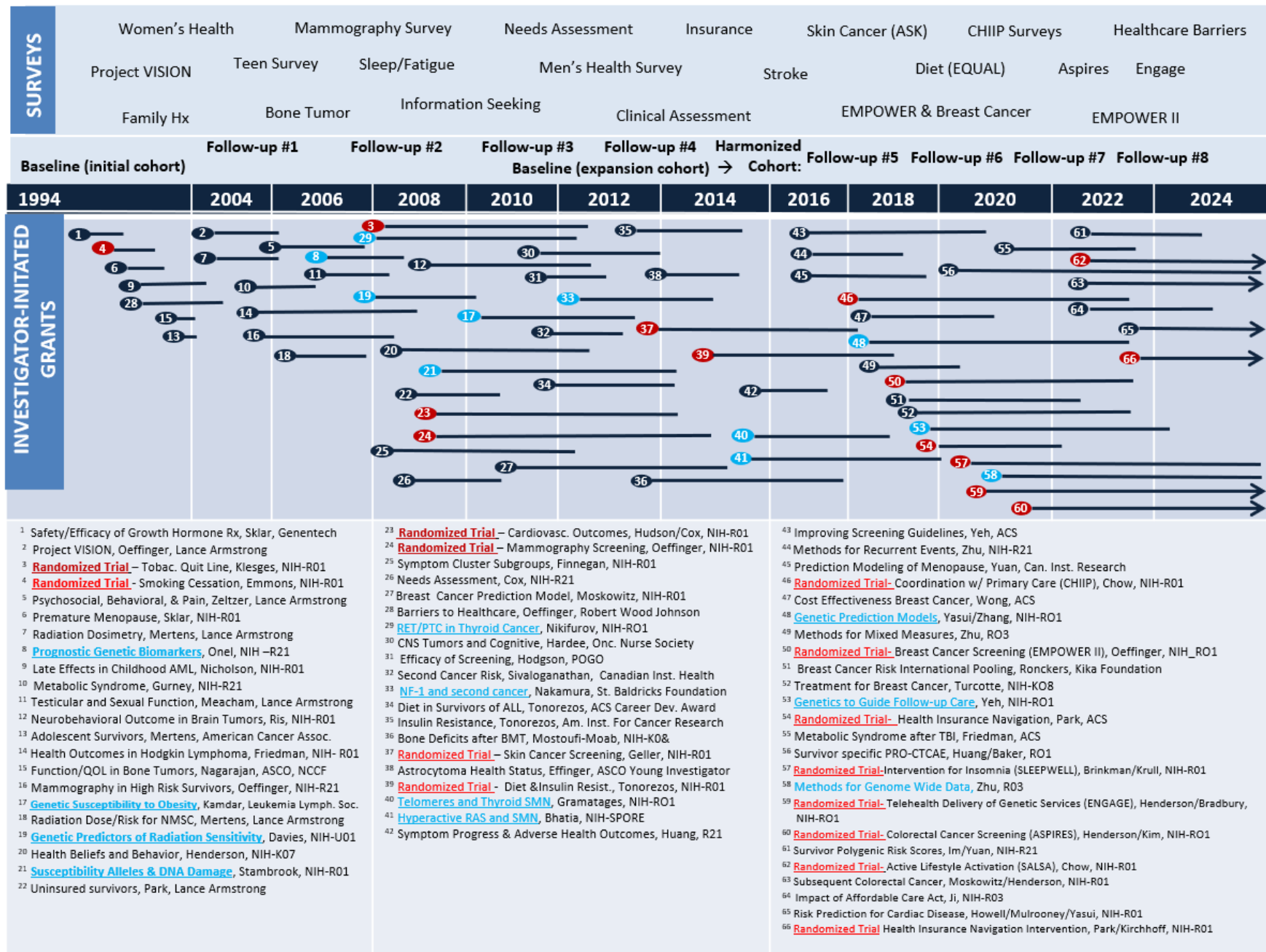
The diagram illustrates the organizational structure of the NCI Cancer Therapy Evaluation Program (CTEP). At the center is the **STEERING COMMITTEE**, which contains the **EXECUTIVE COMMITTEE**. The **STEERING COMMITTEE** is connected to several other entities:

- WORKING GROUPS** (top left): A box containing a list of groups: Second Neoplasm, Chronic Disease, Cancer Control & Intervention, Genetics, Psychology, and Epidemiology & Biostatistics.
- External Advisory Committee** (top right): An oval connected to the **STEERING COMMITTEE**.
- STANDING COMMITTEES** (middle right): A box containing a list of committees: Research and Publications, Education, and Resource Access & Utilization.
- SUPPORT FACILITIES** (bottom): A box containing a list of facilities: Coordinating Center, Statistics & Data Center, Radiation Dosimetry Center, Bio-Pathology Center, Bio-Repository (Molecular Genetic Bank).
- RESEARCH COMMUNITY** (bottom left): A red box connected to the **WORKING GROUPS**.
- COLLABORATING INSTITUTIONS** (far left): A dark blue vertical bar connected to the **WORKING GROUPS**.

Double-headed arrows indicate bidirectional communication between the **STEERING COMMITTEE** and the **WORKING GROUPS**, **External Advisory Committee**, **STANDING COMMITTEES**, and **SUPPORT FACILITIES**. A double-headed arrow also connects the **RESEARCH COMMUNITY** and **WORKING GROUPS**.

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# Externally Funded Ancillary Studies



### Main Characteristics of the Initial, Expansion, Overall and Sibling Cohort Participants

Characteristic <sup>#</sup>		Original Cohort <sup>1</sup> (n=14,361)		Expansion Cohort <sup>2</sup> (n=11,304)		Overall Cohort <sup>3</sup> (n=25,665)		Sibling Cohort (n=5,059)	
		N	(%)	N	(%)	N	(%)	N	(%)
<b>Sex</b>	Male	7714	(53.7)	6011	(53.4)*	13725	(53.6)*	2414	(47.7)
	Female	6647	(46.3)	5293	(46.6)	11940	(46.4)	2645	(52.3)
<b>Race</b>	White	13035	(90.8)	9191	(81.1)	22226	(85.8)	4558	(90.1)
	Black	713	(5.0)	991	(8.3)	1704	(6.7)	153	(3.0)
	American Indian / Alaska Native	89	(0.0)	66	(0.6)	155	(0.6)	23	(0.5)
	Asian or Pacific Islander	168	(1.2)	247	(2.4)	415	(1.8)	53	(1.0)
	Other	226	(1.6)	804	(7.5)	1030	(4.7)	92	(1.8)
	Unknown	130	(0.9)	5	(0.0)	135	(0.5)	180	(3.6)
<b>Ethnicity</b>	Hispanic	752	(5.2)	1293	(12.1)	2045	(8.8)	216	(4.3)
	Non-Hispanic	12961	(90.3)	9994	(87.8)	22955	(89.0)	4635	(91.6)
	Unknown	648	(4.5)	17	(0.1)	665	(2.2)	208	(4.2)
<b>Age at cancer diagnosis</b>	0-4 yrs	5751	(40.0)	4438	(45.1)	10189	(42.6)	-	
	5-9 yrs	3204	(22.3)	2581	(25.0)	5785	(23.7)	-	
	10-14 yrs	2915	(20.3)	2530	(18.1)	5445	(19.2)	-	
	15-20 yrs	2491	(17.3)	1753	(11.8)	4244	(14.5)	-	
<b>Primary diagnosis</b>	ALL	4329	(30.1)	2286	(41.1)	6615	(35.8)	-	
	AML	356	(2.5)	571	(3.7)	927	(3.1)	-	
	Other leukemia	145	(1.0)	185	(1.2)	330	(1.1)	-	
	Astrocytoma	1182	(8.2)	1506	(9.8)	2688	(9.1)	-	
	Medulloblastoma/PNET	380	(2.6)	660	(4.3)	1040	(3.5)	-	
	Other CNS malignancy	311	(2.2)	450	(2.9)	761	(2.6)	-	
	Hodgkin lymphoma	1927	(13.4)	1180	(7.7)	3107	(10.5)	-	
	Non-Hodgkin lymphoma	1082	(7.5)	1034	(6.7)	2116	(7.1)	-	
	Kidney tumors	1258	(8.8)	1018	(6.6)	2276	(7.7)	-	
	Neuroblastoma	955	(6.6)	993	(6.5)	1948	(6.6)	-	
	Soft tissue sarcoma	1246	(8.7)	510	(3.3)	1756	(5.9)	-	
	Ewings sarcoma	405	(2.8)	335	(2.2)	740	(2.5)	-	
	Osteosarcoma	733	(5.1)	524	(3.4)	1257	(4.2)	-	
	Other bone malignancy	52	(0.4)	51	(0.3)	103	(0.3)	-	
<b>Vital status at baseline</b>	Alive	13186	(91.8)	10671	(95.0)	23857	(93.4)	5047	(99.8)
	Dead	1175	(8.2)	633	(5.0)	1808	(6.6)	12	(0.2)

Characteristic <sup>#</sup>		Original Cohort <sup>1</sup> (n=14,361)		Expansion Cohort <sup>2</sup> (n=11,304)		Overall Cohort <sup>3</sup> (n=25,665)		Sibling Cohort (n=5,059)	
		N	(%)	N	(%)	N	(%)	N	(%)
<b>Treatment</b>	Chemo + RT + Surgery	5046	(35.1)	3327	(23.7)	8373	(29.2)	-	
	Chemo + RT	1677	(11.7)	656	(8.4)	2333	(10.0)	-	
	Chemo + Surgery	2240	(15.6)	3256	(25.4)	5496	(20.7)	-	
	Chemo only	905	(6.3)	1714	(26.3)	2619	(16.6)	-	
	RT + Surgery	1504	(10.5)	504	(3.3)	2008	(6.8)	-	
	RT only	42	(0.3)	26	(0.2)	68	(0.2)	-	
	Surgery only	915	(6.4)	1247	(8.1)	2162	(7.3)	-	
	No treatment	29	(0.2)	48	(0.3)	77	(0.3)	-	
	Med. Rec. Not Available	2003	(13.9)	526	(4.3)	2529	(9.0)	-	

<sup>1</sup>20,687 eligible, <sup>2</sup>17,349 eligible, <sup>3</sup>38,036 eligible

<sup>#</sup>Percentages for individual characteristics calculated on total number of participants providing information for those characteristics

<sup>\*</sup>Percentages weighted to reflect modified sampling of ALL survivors in expansion cohort

RT = radiotherapy

As of April 2022

## Follow-Up Survey Participation (Survivors)

Questionnaire	Number of Pages	Eligible	Participation Rate	Non-Response	Refused Questionnaire	Dropout of Study	Lost to Follow-Up
Follow-Up 1	16	n = 12,884	81%	6%	2%	4%	7%
Follow-Up 2	24	n = 11,859	78%	8%	3%	5%	6%
Follow-Up 3	4	n = 11,393	78%	5%	1%	3%	13%
Follow-Up 4	28	n = 10,143	82%	9%	2%	1%	5%
Follow-Up 5	36	n = 18,041	66%	20%	2%	1%	11%
Follow-Up 6	8 – 16 <sup>1</sup>	n = 17,297	77%	13%	.2%	1%	9%
Follow-Up 7	32	N = 17,557	67%	22%	.5%	1%	9%

<sup>1</sup> The three versions of the FU6 survey were 8, 12, and 16 pages. The return rates for each version were:

- 8 pages: 78% (n = 10,245)
- 12 pages: 77% (n = 5,426)
- 16 pages: 74% (n = 1,626)

## Follow-Up 7 (FU7) Status

<b>Survivors</b>		
<b>Invited</b>	<b>17,847</b>	
<b>Completed</b>	<b>11,745</b>	<b>65.8%</b>
Paper	3,028	
Online	8,008	
Interviewer	709	
<b>myLTFU Activated, FU7 Non-Responder</b>	<b>1,326</b>	<b>7.4%</b>
<b>myLTFU Not Activated, FU7 Non-Responder</b>	<b>4,174</b>	<b>23.4%</b>
<b>Refused FU7</b>	<b>92</b>	<b>0.5%</b>
<b>Refused Further Contact</b>	<b>215</b>	<b>1.2%</b>
<b>Deceased/No Proxy</b>	<b>295</b>	<b>1.7%</b>
<b>myLTFU Account Activated - Total</b>	<b>11,120</b>	<b>62.3%</b>

<b>Siblings</b>		
<b>Invited</b>	<b>3,750</b>	
<b>Survey Completed</b>	<b>2,198</b>	<b>58.6%</b>
Paper	549	
Online	1,593	
Interviewer	56	
<b>myLTFU Activated, FU7 Non-Responder</b>	<b>236</b>	<b>6.3%</b>
<b>myLTFU Not Activated, FU7 Non-Responder</b>	<b>1,235</b>	<b>32.9%</b>
<b>Refused FU7</b>	<b>6</b>	<b>0.2%</b>
<b>Refused Further Contact</b>	<b>60</b>	<b>1.6%</b>
<b>Deceased/No Proxy</b>	<b>15</b>	<b>0.4%</b>
<b>myLTFU Account Activated - Total</b>	<b>2,044</b>	<b>54.5%</b>

Survey Administration: 8/2019 – 12/2021

As of April 2022

## Oragene DNA Kit Status Summary (Overall)

Kits Sent	Cases (n = 19,199)		Siblings (n = 4,002)	
	<i>n</i>	<i>% of Sent</i>	<i>n</i>	<i>% of Sent</i>
Returned	10,409	54.2%	1,643	41.1%
Refused	1,486	7.7%	325	8.1%
Pending	5,165	26.9%	1,408	35.2%
In Tracing	1,636	8.6%	581	14.5%
Deceased	503	2.6%	45	1.1%

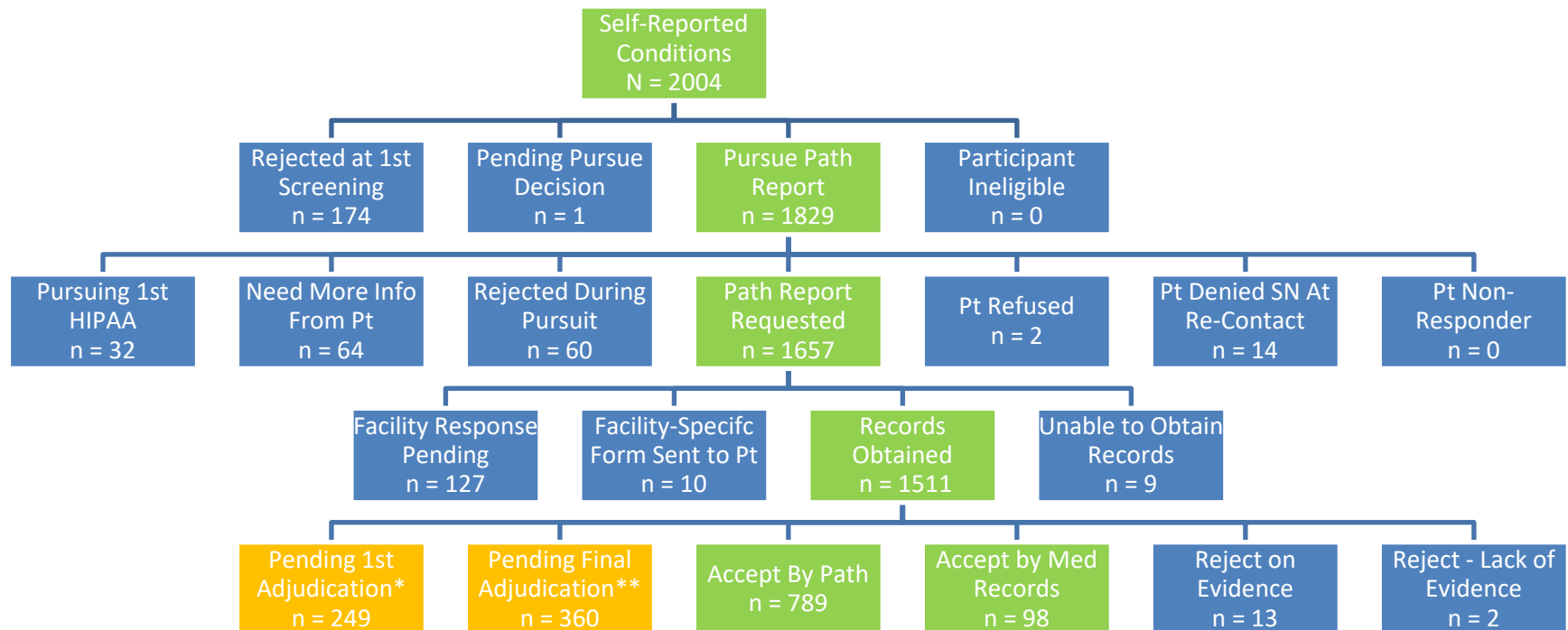
## Oragene DNA Kit Status Summary by Cohort

Kits Sent	Original Cases (n = 9,566)		Original Siblings (n = 3,128)	
	<i>n</i>	<i>% of Sent</i>	<i>n</i>	<i>% of Sent</i>
Returned	5,278	55.2%	1,170	37.4%
Refused	987	10.3%	271	8.7%
Pending	2,195	22.9%	1,148	36.7%
In Tracing	720	7.5%	495	15.8%
Deceased	386	4.1%	44	1.4%

Kits Sent	Expansion Cases (n = 9,633)		Expansion Siblings (n = 874)	
	<i>n</i>	<i>% of Sent</i>	<i>n</i>	<i>% of Sent</i>
Returned	5,131	53.3%	473	54.1%
Refused	499	5.2%	54	6.2%
Pending	2,970	30.8%	260	29.7%
In Tracing	916	9.5%	86	9.8%
Deceased	117	1.2%	1	0.2%

As of April 2022

## Follow-Up 7 Subsequent Neoplasm Confirmation Status Report



\*There are 12 conditions that are ready to be reviewed but have not yet been sent to the CCSS pathologist.

\*\*There are 250 conditions that have been reviewed by the CCSS pathologist but have not yet been sent for final review.

As of April 2022

## Characteristics of Subsequent Neoplasms in CCSS

Subsequent Neoplasm	Total Cases Ascertained		Initial Cohort		Expansion Cohort		Ascertained during Current Grant Period	
	N	%	N	%	N	%	N	%
<b>All Subsequent Neoplasms</b>	<b>9317</b>	<b>100.0</b>	<b>7252</b>	<b>100.0</b>	<b>2065</b>	<b>100.0</b>	<b>5647</b>	<b>100.0</b>
<b>Leukemia</b>	<b>86</b>	<b>0.9</b>	<b>60</b>	<b>0.8</b>	<b>26</b>	<b>1.3</b>	<b>22</b>	<b>0.4</b>
ALL	19	0.2	16	0.2	3	0.1	4	0.1
AML	50	0.5	32	0.4	18	0.9	13	0.2
Other leukemia	17	0.2	12	0.2	5	0.2	5	0.1
<b>Lymphoma</b>	<b>87</b>	<b>0.9</b>	<b>64</b>	<b>0.9</b>	<b>23</b>	<b>1.1</b>	<b>38</b>	<b>0.7</b>
Hodgkin	21	0.2	15	0.2	6	0.3	5	0.1
Non-Hodgkin	65	0.7	48	0.7	17	0.8	33	0.6
Other lymphoma	1	0.0	1	0.0	0	0.0	0	0.0
<b>CNS</b>	<b>919</b>	<b>9.9</b>	<b>723</b>	<b>10.0</b>	<b>196</b>	<b>9.5</b>	<b>541</b>	<b>9.6</b>
Glial	145	1.6	85	1.2	60	2.9	54	1.0
Medullo/PNET	8	0.1	7	0.1	1	0.0	1	0.0
Meningioma	730	7.8	603	8.3	127	6.2	477	8.4
Other CNS	36	0.4	28	0.4	8	0.4	9	0.2
<b>Solid Organ</b>	<b>1818</b>	<b>19.5</b>	<b>1369</b>	<b>18.9</b>	<b>449</b>	<b>21.7</b>	<b>816</b>	<b>14.5</b>
Breast	668	7.2	547	7.5	121	5.9	284	5.0
Bone	66	0.7	50	0.7	16	0.8	12	0.2
Soft tissue sarcoma	220	2.4	159	2.2	61	3.0	78	1.4
Thyroid	389	4.2	247	3.4	142	6.9	184	3.3
Other solid organ	475	5.1	366	5.0	109	5.3	258	4.6
<b>Skin</b>	<b>6003</b>	<b>64.4</b>	<b>4733</b>	<b>65.3</b>	<b>1270</b>	<b>61.5</b>	<b>3951</b>	<b>70.0</b>
Melanoma	163	1.7	119	1.6	44	2.1	95	1.7
Non-melanoma Skin Cancer	5840	62.7	4614	63.6	1226	59.4	3856	68.3
<b>Unspecified Cancer</b>	<b>404</b>	<b>4.3</b>	<b>303</b>	<b>4.2</b>	<b>101</b>	<b>4.9</b>	<b>279</b>	<b>4.9</b>

\*Restricted to subsequent neoplasm  $\geq 5$  years from primary cancer diagnosis; includes in-situ breast cancer and non-invasive melanoma

As of April 2022

## Characteristics of Biologic Material Available for Subsequent Malignant Neoplasm and Meningioma Cases

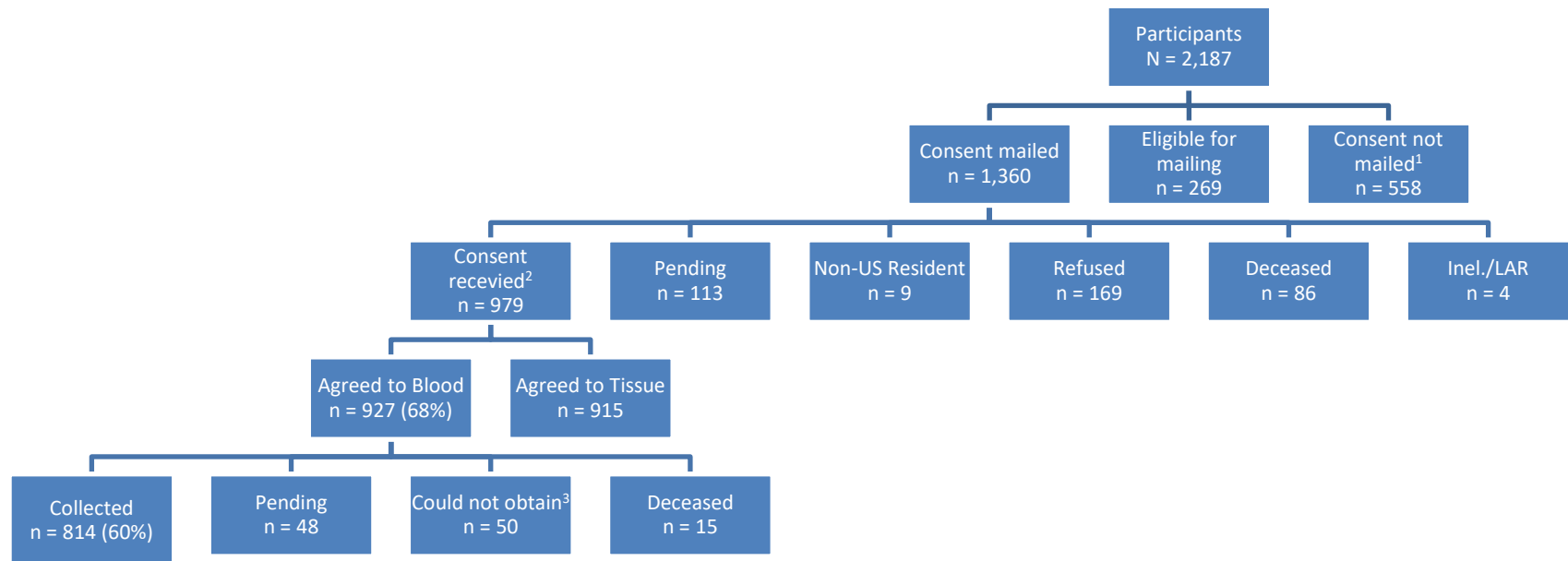
SMN	# with germline tissue			Germline Tissue (any kind) and Treatment Data	Total with SMN Tissue	Number of Cases with SMN Tissue by Type			
	Buccal Cells*	Saliva Oragene	Blood			H&E Slides	Unstained Slides	Scrolls	Blocks
Breast	309	375	312	473	243	214	124	52	80
Meningioma	357	484	310	555	120	112	65	20	51
Other CNS	43	42	26	60	27	26	13	2	6
Thyroid	135	242	198	282	124	114	86	38	37
Sarcoma	47	55	42	74	35	33	27	9	8
Leukemia	18	28	17	32	10	10	9	0	1
Bone	15	16	15	25	3	3	2	0	1
Melanoma	42	66	43	78	20	18	12	3	5
Lymphoma	28	42	30	52	14	13	7	3	4
Renal Cell	29	42	25	44	15	14	12	3	4
Other Carcinoma	158	211	135	244	102	98	49	13	49
All Other	48	40	28	65	15	12	9	3	2
<b>TOTALS</b>	1,229	1,643	1,181	1,984	728	667	415	146	248

SMN = Subsequent Malignant Neoplasm; CNS = Central Nervous System

\*Collected using mouthwash kits

As of April 2022

## Blood/Tissue Consent and Blood Collection Status for Participants with a Confirmed SMN



<sup>1</sup> Reasons for consent not mailed: 558

- Deceased = 451
- Canadian resident = 23
- LAR/not competent to consent = 49
- Lost to follow-up = 2
- Refused CCSS = 33

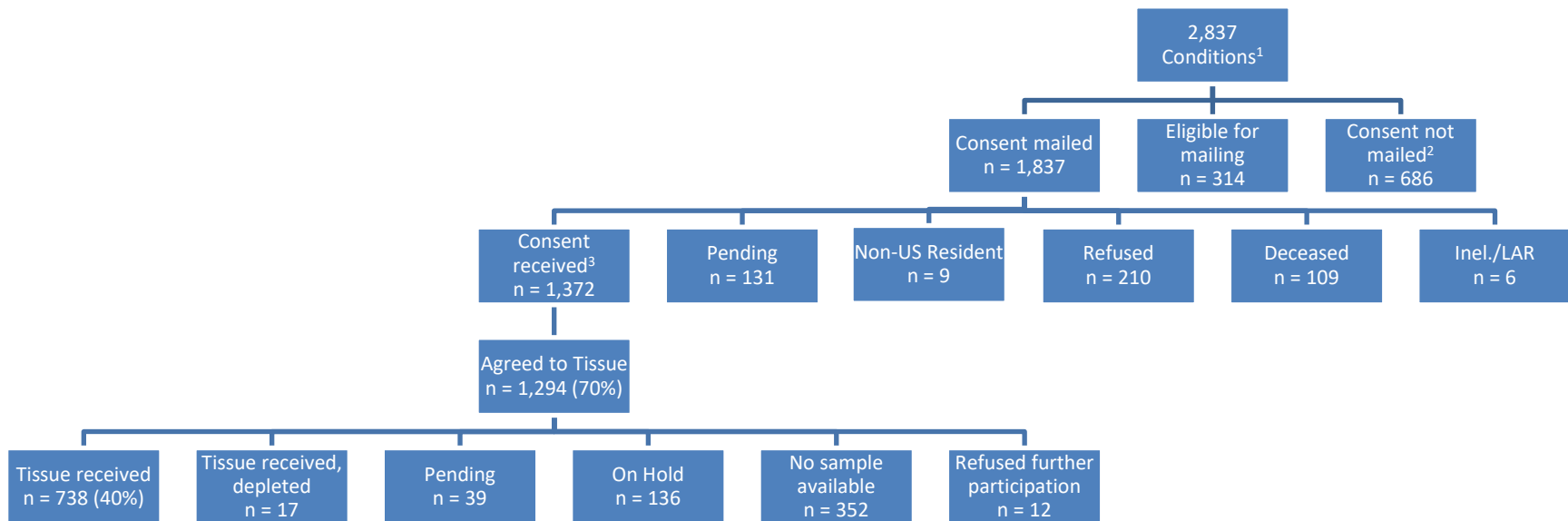
<sup>2</sup> Return rate is **72%** of consents mailed; **60.1%** of participants eligible for mailing; **44.7%** of participants with a condition

<sup>3</sup> Reasons sample could not be obtained: 50

- Unable to schedule/contact = 2
- Unable to draw blood = 11
- Non-US resident = 13
- Refused blood collection = 24

As of April 2022

## Tissue Collection Status for Confirmed SMN Conditions



<sup>1</sup> 2,187 participants

<sup>2</sup> Reasons for consent not mailed: 686

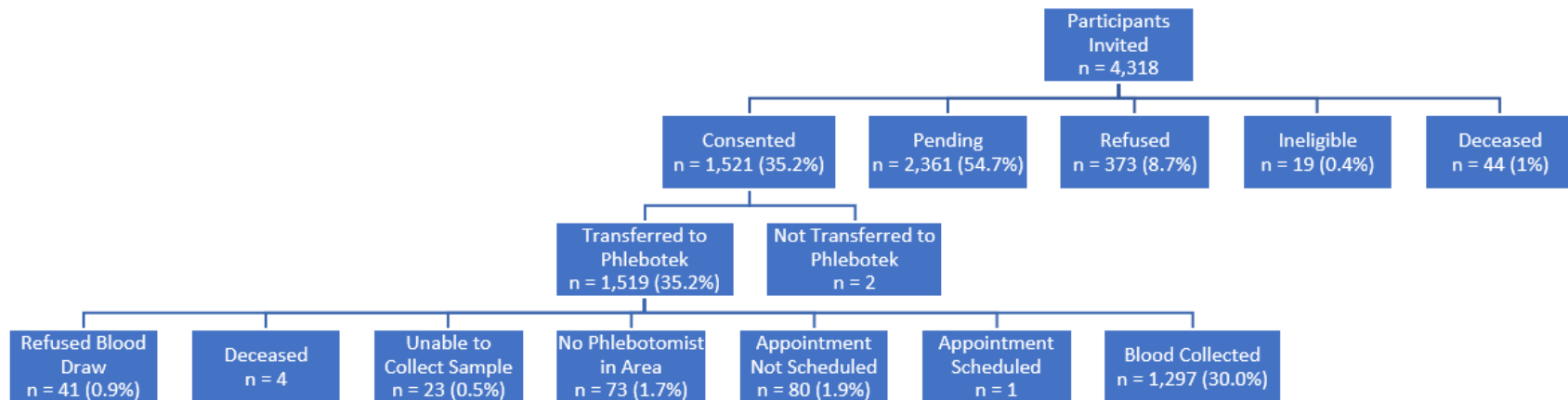
- Deceased = 482
- Non-US resident = 33
- LAR/not competent to consent = 91
- Lost to follow-up = 2
- Refused CCSS = 40
- Deceased, but have tissue sample with no consent = 38 (sample may be depleted for 1 condition)

<sup>3</sup> Return rate is 74.7% of consents mailed; 48.4% of eligible conditions

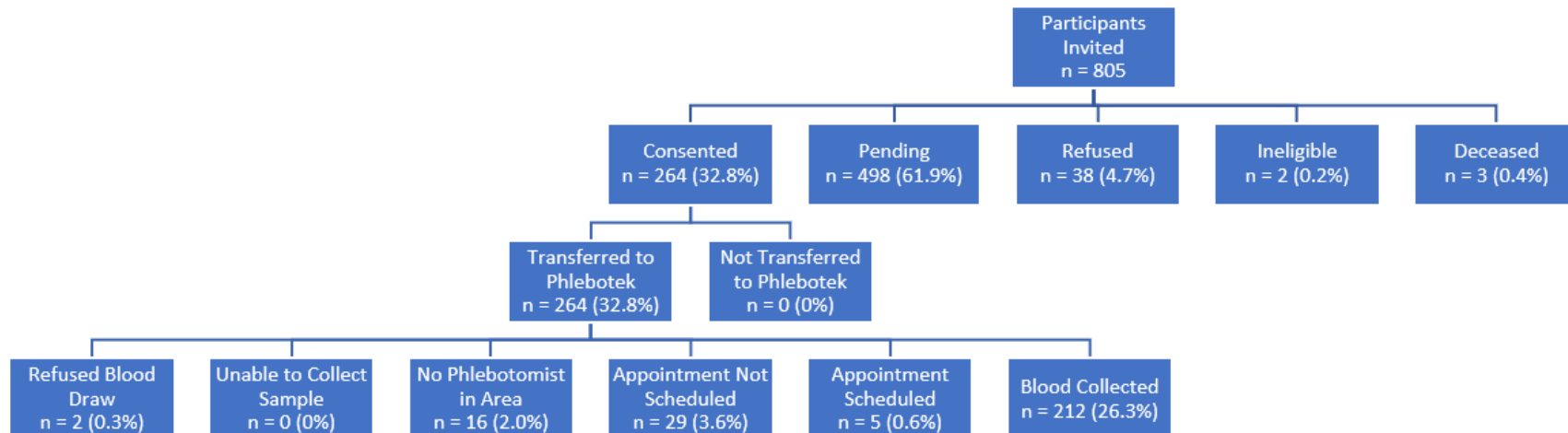
As of April 2022

# Blood Banking for Participants with a Chronic Health Condition and Matched Controls

## Participants with a CHC



## Matched Controls



As of April 2022

## 2015 to 2022 RT Data Analyses Summary

Concept #	Study Title	Study PI	Cohort	Dosimetry Data Required	Dosimetry Status
<b>Case control studies</b>					
11-16	Second primary breast cancers among childhood cancer survivors: joint effects of treatment and host factors	Berrington Gonzalez/ Vega (Original PI: Inskip)	Original (females only)	Average dose to specific breast locations, average thyroid dose	Dosimetry completed
<b>Cohort studies</b>					
11-20	Solid organ transplant in 5- year survivors of pediatric cancer	Termuhlen	Overall	Average doses for heart, kidney, lung; maximum TD to abdomen body region, prescribed TBI Dose	Dosimetry completed
13-16	Comparison of radiation dose reconstruction methods for subsequent neoplasm studies.	Lindsay Morton	Original	Maximum TD for body regions, treatment field type(s) for each patient (requested 7/16)	Dosimetry completed
14-11	Analysis of late mortality by treatment era	Gregory Armstrong	Expanded	Maximum TD for body regions and CSI field/dose summary	Dosimetry completed
15-02	Esophageal disease after childhood cancer therapy: Experience from three childhood cancer survivor cohorts.	Peter Asdahl	Original	Average dose for esophagus or maximum TD for chest, average doses for thyroid and heart	Dosimetry completed
15-05	Cyclophosphamide equivalent dosing and male health late effects – Infertility, erectile dysfunction, sexual function and testosterone replacement therapy in survivors diagnosed from 1970-1986: A report from the Childhood Cancer Survivor Study	Lillian Meacham	Original	Average dose for testes and pituitary	Dosimetry completed
15-06	Exome sequencing to discover genetic variants that predispose childhood cancer survivors to the development of subsequent neoplasms.	Lindsay Morton	Original	Maximum TD for body regions, average doses for other organs and ABM for GWAS group	Dosimetry completed
15-07	Changes in long-term outcomes in Hodgkin lymphoma survivors with contemporary risk-adapted therapy	Kevin Oeffinger	Overall	Treatment summaries with treatment field types and maximum TD for body regions	Dosimetry completed

Concept #	Study Title	Study PI	Cohort	Dosimetry Data Required	Dosimetry Status
15-08	Impact of radiation dose and volume to the pancreas on subsequent risk of diabetes mellitus in long-term survivors of childhood cancer treated with abdominal radiation: A report from the Childhood Cancer Survivor Study	Danielle Novetsky Friedman	Overall	Average dose for pancreas (entire, head, body, tail), V <sub>20</sub> and V <sub>30</sub> for whole pancreas	Dosimetry completed
15-14:	Burden of morbidity after basal cell carcinoma in childhood cancer survivors	Smita Bhatia	Original	Maximum TD for body regions	Dosimetry completed
15-16	Human papillomavirus (HPV)-associated malignancies as second cancers in childhood cancer survivors: a report from the Childhood Cancer Survivor Study	Tara Henderson	Overall	Y/N for any RT	Dosimetry completed
15-17	Risk for late effects of treatment in children newly diagnosed with mature B-cell non-Hodgkin lymphoma: a report from the childhood cancer survivor study cohort	Matthew Ehrhardt	Overall	Y/N for any RT (possibly with cutoff using recurrence date); maximum TD for body regions	Dosimetry completed
16-01	Cause-specific mortality among childhood cancer survivors with a subsequent thyroid cancer	Dana Barnea	Overall	Average dose for right and left thyroid	Dosimetry completed
16-02	Medulloblastoma and primitive neuroectodermal tumor (PNET) outcomes across three decades of diagnosis	Ralph Salloum	Overall	Dose for CSI specified as: Y/N for brain, spine, TBI; Maximum TD for brain, brain four segments, spine, and TBI; Minimum CSI dose (min dose received by whole brain or spine)	Dosimetry completed
16-03	Hospitalization and mortality due to infection among survivors of childhood cancer with asplenia	Brent Weil	Overall	Average dose for upper left quadrant of abdomen (spleen surrogate)	Dosimetry completed
16-04	Cognitive and behavioral outcomes in survivors of neuroblastoma	Daniel Zheng	Overall	Y/N for RT: any, cranial, TBI, and chest/neck	Dosimetry completed
16-05	Long-term incidence of venous thromboembolism among survivors of childhood cancer	Arin Madenci	Overall	Maximum TD for body regions	Dosimetry completed
16-06	Psychosocial outcomes in adolescent survivors of Wilms tumor	Rebecca Foster	Overall	Y/N for RT: any, abdomen, and chest	Dosimetry completed
16-07	The impact of developmental status on radiation-associated late cardiac toxicities in long-term survivors of childhood cancer	James Bates	Overall	Average heart dose; Also of interest: V <sub>5</sub> , V <sub>10</sub> , V <sub>15</sub> , V <sub>20</sub> .	Dosimetry completed

Concept #	Study Title	Study PI	Cohort	Dosimetry Data Required	Dosimetry Status
16-08	Social adjustment in adolescent survivors of pediatric CNS tumors	Fiona Schulte	Overall	Maximum TD for brain and brain four segments	Dosimetry completed
16-10	Secondary cancers among NF1 cancer survivors	Bhatia	Overall	Y/N for RT, maximum TD to body regions	Dosimetry completed
16-11	Neurocognitive functioning in survivors of osteosarcoma	Nina Kadan-Lottick	Original	Y/N for RT, maximum TD to chest/neck	Dosimetry completed
16-12	Prevalence and patterns of prescription psychoactive medication use in adolescent survivors of childhood cancer: A report from the Childhood Cancer Survivor Study	Yin Ting Cheung	Overall	Y/N for RT: any and cranial, maximum TD to Brain	Dosimetry completed
16-13	Sleep behaviors and patterns and their relationship to health and mental health outcomes in adult survivors of childhood cancers	Lauren Daniel	Overall	Y/N for RT: any, cranial, and chest	Dosimetry completed
16-14	Long-term incidence of anorectal complications among childhood cancer survivors	Christopher Weldon	Overall	Y/N for RT to abdomen and pelvis, maximum TD for abdomen and pelvis body regions	Dosimetry completed
16-15	Incidence, predictors and impact of hearing impairment in long-term survivors of childhood cancer	Austin Brown	Overall	maximum TD for posterior fossa and temporal lobe brain segments (surrogate for cochlea)	Dosimetry completed
16-16	Incidence of chronic disease among childhood cancer survivors by treatment era and temporal trends in treatment exposure	Todd Gibson	Overall	maximum TD for Body Regions, Y/N for RT: any, chest, abdominal, CSI, and/or pelvis	Dosimetry completed
16-17	Psychological distress, functional dependence and neurologic morbidity among adult survivors of childhood cancer treated with CNS-directed therapies	Stephanie Vuotto	Overall	Cranial RT Y/N, maximum TD for brain and brain four segments	Dosimetry completed
16-18	Incidence of cardiac outcomes by treatment era and temporal trends in treatment exposure in adult survivors of childhood cancer	Daniel Mulrooney	Expanded	Average dose to heart	Dosimetry completed
16-19	The effects of neurofibromatosis type 1 on late outcomes in adult survivors of childhood cancer	Peter de Blank	Overall	Y/N for any RT	Dosimetry completed

Concept #	Study Title	Study PI	Cohort	Dosimetry Data Required	Dosimetry Status
16-20	Psychological, behavioral, and educational outcomes in pediatric acute myeloid leukemia survivors	Kristen Stefanski	Overall (AML only)	Y/N for any RT, Max TD for cranial radiation, cranial and spine radiation, Total CSI radiation, and TBI dose	Dosimetry completed
17-01	Exercise and late mortality in 5-year survivors of childhood cancer: A report from the Childhood Cancer Survivor Study	Lee Jones	Overall	Max TD for chest	Dosimetry completed
17-02	Projections in trends in life expectancy and quality-adjusted life expectancy among childhood cancer survivors	Jennifer Yeh	Overall	Y/N for RT, maximum TD for body regions, TBI dose	Dosimetry completed
17-04	Predictors of longitudinal pain in long-term survivors of childhood cancer: A report from the Childhood Cancer Survivor Study	Cynthia Karlson	Original	Y/N for any RT, Y/N for cranial RT, maximum TD for brain	Dosimetry completed
17-05	Quantifying the individual absolute risk of premature ovarian failure in female survivors of childhood cancer	Yan Yuan	Overall (female)	Max TD for abdomen and pelvis body regions, and age at exposure, average dose to left ovaries and pituitary, TBI dose	Dosimetry completed
17-06	Subsequent neoplasms among survivors of childhood cancer not previously treated with radiation	Lucie Turcotte	Overall	Y/N for RT and maximum TD for body regions	Dosimetry completed
17-07	Financial toxicity in survivors of childhood cancer and Their siblings: A proposal to include a financial toxicity instrument in the follow-up 6 survey	Paul Nathan	Overall	Y/N for any RT	Dosimetry completed
17-08	Cost-effective cardiomyopathy surveillance strategies in childhood cancer survivors.	Matthew Ehrhardt	Overall	Average heart dose	Dosimetry completed
17-09	Adherence to surveillance for second malignant neoplasms and cardiac dysfunction in the CCSS cohort.	Paul Nathan	Overall	Max TD for chest, abdomen, and pelvis body regions, spine and TBI dose; any radiation exposure to a field that includes the heart	Dosimetry completed
17-10	Trends in utility-based health-related quality of life among childhood cancer survivors	Jennifer Yeh	Overall	Y/N for RT and Y/N for chest RT; if yes, chest dose	Dosimetry completed
17-11	Breast cancer risk in the modern treatment era: A Report from the Childhood Cancer Survivor Study	Tara Henderson	Overall	Y/N for RT and Y/N for chest RT; if yes, chest dose. Type of chest field	Dosimetry completed

Concept #	Study Title	Study PI	Cohort	Dosimetry Data Required	Dosimetry Status
17-12	Physical activity as a predictor of neurocognitive outcomes in adult survivors of childhood cancer	Kim Edelstein	Overall	Chest body region dose and CSI dose	Dosimetry completed
17-13	Infertility, assisted reproductive technology utilization and pregnancy outcomes in childhood cancer survivor population: a CCSS and SART CORS data linkage study	Kimberly Keefe	Overall, female	Max TD for abdomen, pelvis, TBI dose, and averaged doses pituitary gland, ovaries (left and right)	Dosimetry completed
17-14	Racial/Ethnic differences in neurocognitive, psychological and quality of life outcomes in adult survivors of childhood cancers	Stephanie Dixon	Overall	Y/N Y/N for cranial RT and CSI dose	Dosimetry completed
17-15	A genome-wide association study of stroke and myocardial infarction among long-term survivors of childhood cancer	Daniel Bowers	Original	Max TD for brain, neck, and chest, average heart and pituitary doses	Dosimetry completed
17-16	Genetic architecture of diabetes mellitus in long-term survivors of childhood cancer	Nisha Rathore	Original	Y/N for RT, Y/N for brain, abdomen, and TBI, doses for brain, abdomen, and TBI Average pancreas dose will also be included in analysis	Dosimetry completed
17-17	Chronic pain in adult survivors of childhood cancer: utilization of the childhood cancer survivor study mHealth platform in assessing pain and wearable sensor technology	Nicole Alberts	Overall	Y/N for all body regions, maximum TD for body regions	Dosimetry completed
17-18	Association between special education services, educational attainment, and chronic health conditions among long-term childhood cancer survivors	Lisa Bashore	Overall	Y/N for brain; maximum TD for brain and brain four segments	Dosimetry completed
17-19	Long-term gallbladder and biliary disease in survivors of childhood cancer: A Report from the Childhood Cancer Survivor Study	Bryan Dieffenbach	Overall	Maximum TD for body regions, and TBI dose, Y/N	Dosimetry completed
17-20	GWAS of childhood cisplatin-induced tinnitus and meta-analysis with adult GWAS of cisplatin-induced tinnitus	M. Eileen Dolan	Overall	Max TD for brain	Dosimetry completed
18-01	Self-reported neuropsychological outcomes in adult survivors of neuroblastoma	Caroline Hesko	Overall Neuroblastoma	Maximum TD for brain, chest, and pelvis	Dosimetry completed

Concept #	Study Title	Study PI	Cohort	Dosimetry Data Required	Dosimetry Status
18-03	Temporal trends in late-onset morbidity and mortality in rhabdomyosarcoma survivors	Pooja Hingorani	Overall Rhabdomyosarcoma	Y/N for all body regions	Dosimetry completed
18-04	Frailty in childhood cancer survivors	Samah Hayek	Overall	Maximum TD for body regions	Dosimetry completed
18-05	Genome-wide association study (GWAS) of late-occurring intestinal obstruction	Arin Madenci	Original	Maximum TD for body regions	Dosimetry completed
18-06	Long-term follow up of survivors of childhood osteosarcoma: A Report from the Childhood Cancer Survivor Study (CCSS)	Kerri Beckett	Overall	Y/N for chest RT	Dosimetry completed
18-07	Changes in long-term outcomes in neuroblastoma survivors treated with contemporary therapies: A report from the Childhood Cancer Survivor Study	Danielle Novetsky Friedman	Overall Neuroblastoma	Y/N and max TD for brain, chest, and abdomen RT; TBI dose	Dosimetry completed
18-09	Health care utilization by survivors of childhood cancer	Paul Nathan	Overall	Y/N for all body regions and TBI	Dosimetry completed
18-11	The impact of chronic conditions on the psychosexual function of adult female survivors of childhood cancer	Kari Bjornard	Overall Female	Y/N and dose for brain, chest, abdomen, and pelvis body regions	Dosimetry completed
18-12	Prevalence and predictors of loneliness in young adult survivors of childhood cancer	Ameera Fayad	Overall	Y/N and max TD for the brain	Dosimetry completed
18-14	Long-term outcomes among survivors of childhood acute myeloid leukemia	Lucie Turcotte	Overall AML	Y/N and max TD for all body regions and TBI dose	Dosimetry completed
18-15	Exercise and chronic health conditions and health care utilization in adult survivors of childhood cancer	Lee W. Jones	Overall	Y/N for RT, Y/N for chest, abdomen, or pelvis; RT, body region doses for chest	Dosimetry completed
18-16	Long-term outcomes of survivors of childhood Acute Lymphoblastic Leukemia (ALL) across 30-years of treatment: a report from the Childhood Cancer Survivor Study	Stephanie Dixon	Overall ALL	Y/N for TBI and CSI, max TD for brain	Dosimetry completed
18-18	Determinants of longitudinal health-related quality of life changes in adult survivors of childhood cancer: A report from the Childhood Cancer Survivor Study	Maritza Ruiz	Overall	Y/N for RT, Y/N for chest, abdomen, or pelvis	Dosimetry completed
18-20	Incidence of and risk factors for late end stage renal disease in survivors of childhood cancer	Bryan Dieffenbach	Overall	Y/N for all body regions and TBI, and kidneys, maxTD for body regions, and average kidney dose (right and left)	Dosimetry completed

Concept #	Study Title	Study PI	Cohort	Dosimetry Data Required	Dosimetry Status
19-01	Genome wide association study of modulators of pregnancy in long term survivors of pediatric cancer	Seth Rotz	Original	Y/N for all body regions	Dosimetry completed
19-02	Genetic risk prediction profiles for fracture among childhood cancer survivors	Cindy Im	Original	Chest body region dose and CSI dose	Dosimetry completed
19-03	Physical functioning and chronic health conditions in pediatric Acute Lymphoblastic Leukemia and Non-Hodgkin Lymphoma survivors treated with contemporary therapy	Kari Bjornard	Overall ALL/NHL	brain body region dose and CSI dose	Dosimetry completed
19-05	Genetic susceptibility to neurocognitive impairment secondary to childhood cancer treatment	Michael E. Scheurer	Original	Y/N and maxTD for all body regions	Dosimetry completed
19-06	Peripheral motor and sensory neuropathy and associated outcomes in long-term survivors of childhood cancer	Rozalyn Rodwin	Overall	Y/N for RT, spine, and TBI; maxTD for brain	Dosimetry completed
19-07	Thirty-five-year follow-up of childhood Wilms tumor: Impact of treatment era on long-term health outcomes	Brent Weil	Overall Wilms tumor	Y/N and dose flank RT, whole abdomen, and whole lung	Dosimetry completed
19-08	Lung cancer as a subsequent malignant neoplasm in survivors of childhood cancer: A Report from the Childhood Cancer Survivor Study	Taumoha Ghosh	Overall	Y/N and maxTD for chest RT; Type of chest field	Dosimetry completed
19-09	Outcomes of adult survivors of childhood astrocytoma and ependymoma across three decades of diagnosis and treatment, A Report from the Childhood Cancer Survivor Study	Peter de Blank	Overall astrocytoma and ependymoma	Y/N for RT and maxTD all body regions	Dosimetry completed
19-10	Long-term burden of major surgical procedures in survivors of childhood cancer: A report from the Childhood Cancer Survivor Study	Bryan Dieffenbach	Overall	Y/N for RT, and Y/N for brain, chest, abdomen, pelvis, and TBI	Dosimetry completed
19-11	Predictors of neurocognitive and psychosocial outcomes in long-term survivors of Hodgkin Lymphoma: A report from the Childhood Cancer Survivor Study	AnnaLynn Williams	Hodgkin Lymphoma	maxTd for chest and neck	Dosimetry completed
19-12	A genome-wide association study of hypertension in adult survivors of childhood cancer	Jeanne Pierzynski	Original	maxTD for brain, chest, abdomen, and pelvis	Dosimetry completed
19-13	Neurocognitive functioning, emotional status and quality of life among Asian/Pacific Islander childhood cancer survivors	Satomi Sato	Overall (Asian/Pacific Islander descent)	maxTD brain, chest, abdomen, pelvis	Dosimetry completed

Concept #	Study Title	Study PI	Cohort	Dosimetry Data Required	Dosimetry Status
19-14	Temporal changes in therapy and neurocognitive outcomes, social attainment, and quality of life in adult survivors of pediatric brain tumors	Ingrid Tonning Olsson	Overall (with diagnosis of astrocytoma, medulloblastoma, ependymoma)	Y/N and dose for CSI, brain maxTD	Dosimetry completed
19-15	Temporal changes in unemployment of survivors of childhood cancer: A report from the Childhood Cancer Survivor Study (CCSS)	Neel Bhatt	Overall	Y/N CSI and dose, Y/N TBI	Dosimetry completed
19-16	Influence of radiotherapy dose to cardiac substructures on cardiac risk in long-term survivors of childhood cancer	James Bates	Overall	Average doses, V <sub>5</sub> , V <sub>20</sub> for whole heart, average doses for 13 heart substructures	Dosimetry completed
19-17	A genome-wide association study for frailty in adult survivors of childhood cancer	Melissa Richard	Original (European ancestry)	Y/N cranial RT, pelvis maxTD	Dosimetry completed
19-18	GWAS of cisplatin-induced, radiation-induced, and de novo hearing loss	M. Eileen Dolan	Overall	maxTD brain	Dosimetry completed
19-19	Genetic determinants of posttraumatic stress disorder in pediatric cancer survivors	Donghao Lu	Original	Y/N RT, TBI, and CSI	Dosimetry completed
19-20	Protein-altering variants (PAV) associated with BMI in the general population and their roles in survivors of childhood cancer	Yadav Sapkota	Original and Expansion (considered separately)	maxTD brain, chest, and pelvis	Dosimetry completed
19-21	Developing a clinical and genetic risk prediction model for diabetes mellitus among survivors of childhood cancer	Melissa Richard	Original	YN for RT, Y/N and maxTD for brain, abdomen, and pelvis, and TBI dose	Dosimetry completed
19-22	Cognitive aging in adult survivors of childhood cancer	Nicholas Phillips	Overall	maxTD for brain, neck, chest, abdomen, pelvis, age at cranial RT	Dosimetry completed
19-23	Development and validation of a prediction model for end-stage renal disease in childhood cancer survivors	Natalie Wu	Overall	maxTD for abdomen, average dose for kidneys (right and left)	Dosimetry completed
20-01	Risk factors for and outcomes of late amputation among survivors of childhood lower extremity sarcoma: a report from the Childhood Cancer Survivor Study	Erik Geiger	Overall (diagnosed with lower extremity bone or soft tissue sarcoma)	Y/N RT for extremity	Dosimetry completed
20-02	Disparities in cardiovascular outcomes among childhood cancer survivors	David Noyd	Overall	Average dose for heart	Dosimetry completed

Concept #	Study Title	Study PI	Cohort	Dosimetry Data Required	Dosimetry Status
20-04	Use and correlates of carotid ultrasound in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study	Emily Tonorezos	Overall	Y/N for cranium, neck, chest, and TBI, max TD for brain, neck, chest	Dosimetry completed
20-05	Genome-wide association to study dyslipidemia in adult survivors of childhood cancer	Vincent Pluimakers	Original	maxTD for brain and abdomen, TBI dose, average dose for pancreas	Dosimetry completed
20-09	Financial hardship in survivors of childhood cancer and their siblings: overview paper	Paul Nathan	Overall	Y/N RT, Y/N cranial RT	Dosimetry completed
20-10	Neurocognitive outcomes in survivors of early adolescent and young adult hematologic cancers	Amy Wang	Overall, Age $\geq 15$ years at diagnosis	Y/N RT, Y/N and dose CSI, Y/N and maxTD chest, abdomen, pelvis	Dosimetry completed
20-11	Physical and psychological symptom profiles of survivors of childhood cancer and their siblings: links to health behaviors and health care utilization	Rachel Tillery	Overall	Maximum TD for body regions	Dosimetry completed
20-13	Risk and risk factors for colorectal cancers in childhood cancer survivors: A Report from the Childhood Cancer Survivor Study	Constance Owens Tara Henderson Rebecca Howell	Overall	Colon average doses and dose volume metrics, colon substructure average doses	Colorectum model development and validation complete; Dosimetry in-progress
20-14	Overall and cardiac-specific survival following serious cardiovascular events in childhood cancer survivors	Eric Chow	Overall	Y/N RT, Y/N brain, neck, chest. Average doses, V5, V20 for heart, average dose substructures	Dosimetry completed
20-15	The changing pattern of late mortality as survivors age and the impact of modifiable risk factors and markers of biologic and cognitive impairment on late mortality among survivors of childhood cancer: a report from the Childhood Cancer Survivor Study	Stephanie Dixon	Overall	Y/N brain, neck, chest. TBI, CSI	Dosimetry completed
20-16	Late subsequent leukemia after childhood cancer	Lucie Turcotte	Overall	Maximum TD for body regions	Dosimetry completed
20-17	Long-term cost-effectiveness of cancer predisposition syndrome identification strategies in survivors of pediatric leukemia, brain tumors or bone/soft-tissue sarcomas	Catherine Goudie	Overall	Y/N RT, thyroid average dose (left and right lobes)	Thyroid completed; Note: the 4 new inst are not included (in queue)

Concept #	Study Title	Study PI	Cohort	Dosimetry Data Required	Dosimetry Status
20-18	Efficacy and cost-effectiveness of the Children's Oncology Group Long-term follow-up screening guidelines for childhood cancer survivors at risk of colorectal cancer	Van T. Nghiem	Overall	Y/N RT, Y/N and maxTD abdomen and pelvis	Dosimetry completed
20-19	Cardiometabolic risk after total body irradiation during childhood: A Report from CCSS and CIBMTR	Danielle Friedman	Overall	Y/N TBI and TBI dose	Dosimetry completed
20-20	Progression of late medical effects and impact on financial hardship among adult survivors of childhood cancer: A Report from the Childhood Cancer Survivor Study	I-Chan Huang	Overall	Maximum TD for body regions	Dosimetry completed
20-21	Body mass index and risk of subsequent neoplasms	Lenat Joffe	Overall	Maximum TD for body regions	Dosimetry completed
20-22	Longitudinal changes in functional independence in aging adult survivors of pediatric brain tumors	Katharine Rae Lange	Overall	Maximum TD for brain, brain four segments, and CSI dose	Dosimetry completed
20-23	Predicting risk for serious chronic health conditions among female survivors in the Childhood Cancer Survivor Study	Michaela Dinan	Overall	Maximum TD for body regions	Dosimetry completed
20-24	Risk prediction of menopause-related phenotypes in childhood cancer survivors using polygenic risk scores and clinical predictors	Lin Yu	Overall	Y/N RT, Y/N (and dose) TBI, abdomen and pelvis, average dose to pituitary and ovaries	Dosimetry completed
20-25	Does sex mediate the association between treatment exposures and functional outcomes?	Rachel Peterson	Overall	Maximum TD for body regions	Dosimetry completed
20-26	Mortality due to colorectal cancer among survivors of childhood cancer	Ajay Major	Overall	Maximum TD for body regions, TBI dose, spine dose	Dosimetry completed
21-03	Late complications based on local control modalities for childhood pelvic sarcoma	Andrew Murphy	Overall	Y/N RT, Y/N and maxTD for pelvis	Dosimetry completed
21-04	Updated epidemiology of secondary CNS malignancy following radiotherapy exposure in childhood cancer survivors	Robert Galvin	Overall	CSI dose	Dosimetry completed
21-05	Evaluation of subsequent meningiomas in childhood cancer survivors	Tab Cooney	Overall	MaxTD for body regions, brain four segments, and CSI dose	Dosimetry completed

Concept #	Study Title	Study PI	Cohort	Dosimetry Data Required	Dosimetry Status
21-07	Health insurance status experiences following implementation of the patient protection and affordable care act among childhood cancer survivors and siblings: A report from the Childhood Cancer Survivor Study (CCSS).	Anne Kirchhoff	Overall	Y/N for body regions and TBI; maxTD for brain	Dosimetry completed
21-08	Incidence and risk factors for late total joint arthroplasty in survivors of childhood cancer: A report from the Childhood Cancer Survivor Study	Wayne Cohen-Levy	Overall	Y/N RT, Y/N body regions, maxTD for extremities and pelvis	Dosimetry completed
21-09	Accelerated aging as an accumulation of deficits in survivors of childhood cancer and its association with mortality, cognitive, and sleep outcomes	AnnaLynn M. Williams	Overall	Y/N body regions, maxTD chest, abdomen, and pelvis; CSI dose	Dosimetry completed
21-10	Adherence to surveillance guidelines in survivors of hodgkin lymphoma: A report from the Childhood Cancer Survivor Study (CCSS)	Jamie Shoag	Overall, with Hodgkin lymphoma diagnosis	Y/N RT, Y/N body regions and TBI, chest filed data. Heart doses. Chest fields.	Dosimetry completed
21-11	Nonmelanoma skin cancer in survivors of childhood cancer: An update from the Childhood Cancer Survivor Study	Christina Boull	Overall	Y/N and maxTD for body regions	Dosimetry completed
21-12	Financial hardship among adult survivors of childhood cancer that have undergone hematopoietic cell transplant (HCT)	David Buchbinder	Overall	RT Y/N and TBI Y/N	Dosimetry completed
21-14	Association of environmental characteristics and financial hardships in long-term survivors of childhood cancer	Alex Fauer	Overall	Y/N and maxTD for body regions	Dosimetry completed
21-15	Injury-related mortality among survivors of childhood cancer	Ibrahim Qaddoumi	Overall	Y/N body regions; maxTD brain; CSI dose	Dosimetry completed
21-16	Neurocognitive predictors of risky health behaviors in pediatric cancer survivors: distress and pain as moderators of later substance use	Eleanor Chambers	Overall	Y/N and maxTD for body regions	Dosimetry completed
21-17	Emotional distress, social resources, and phenotypic aging in adult survivors of childhood cancer	Kelly Rentscher	Overall	Y/N and maxTD for brain, abdomen, and pelvis	Dosimetry completed
21-18	Personalized risk prediction to reduce cardiovascular disease in childhood cancer survivors	Suman Shrestha	Overall	Y/N and maxTD chest; heart and substructure dose and dose-volume metrics	Dosimetry completed

Concept #	Study Title	Study PI	Cohort	Dosimetry Data Required	Dosimetry Status
21-19	Treatment-specific genetic risk scores for late effects prediction in childhood, adolescent, and young adult cancer survivors	Cindy Im	Original	Y/N and maxTD body regions	Dosimetry completed
21-20	The genomic landscape of subsequent malignant neoplasms in childhood cancer survivors	Samuel Brady	Overall	Y/N and maxTD chest and neck	Dosimetry completed
21-21	Symptom progress and adverse health outcomes in adult childhood cancer survivors	I-Chan Huang	Original	Y/N RT	Dosimetry completed
21-22	Perceptions of risk for sexual dysfunction among adult male survivors of childhood cancer	Jenna Sopfe	Overall, male	Y/N brain and pelvic RT	Dosimetry completed
22-01	Risk factors for melanoma among adult survivors of childhood cancer: A Report from the Childhood Cancer Survivor Study	Seth Rotz	Overall	Y/N RT for head, chest, upper and lower extremities with laterality	Dosimetry completed; extremity laterality list will be provided.
22-02	Health outcomes in older survivors of childhood cancer	Rusha Bhandari	Overall	Y/N, maxTD for body regions; spine dose	Dosimetry completed

Abbreviations: tumor dose (TD), radiation therapy (RT), cranial spinal irradiation (CSI)

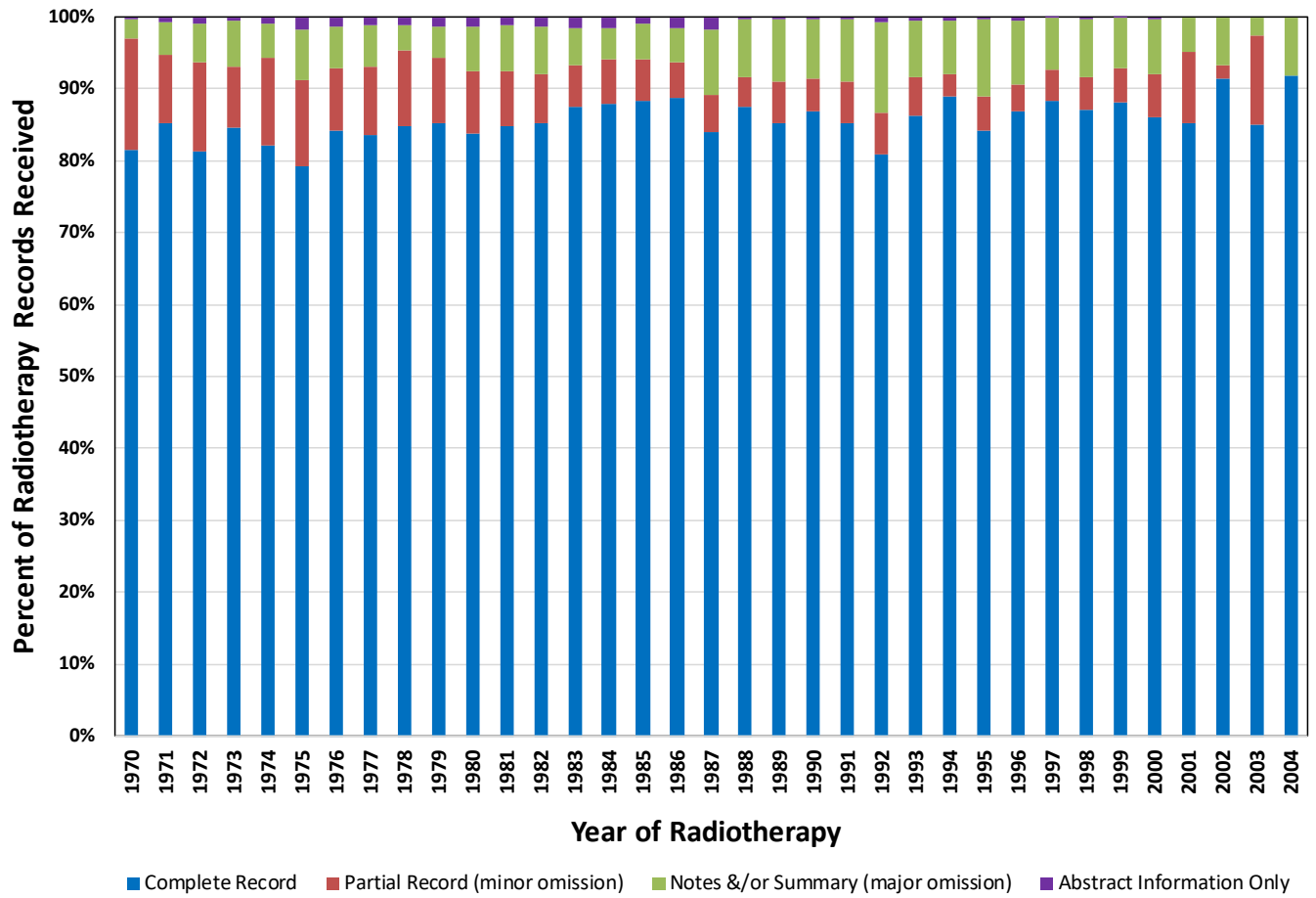
#### Dosimetry Update Notes:

- An updated Body Region Dosimetry file submitted to statistical center 12/2019 and supersedes the 12/2016 file for all new analysis.
- An updated Heart Dosimetry file with whole heart and 13 substructures was submitted to statistical center in 08/20 and supersedes the 12/16 file for all new analysis.

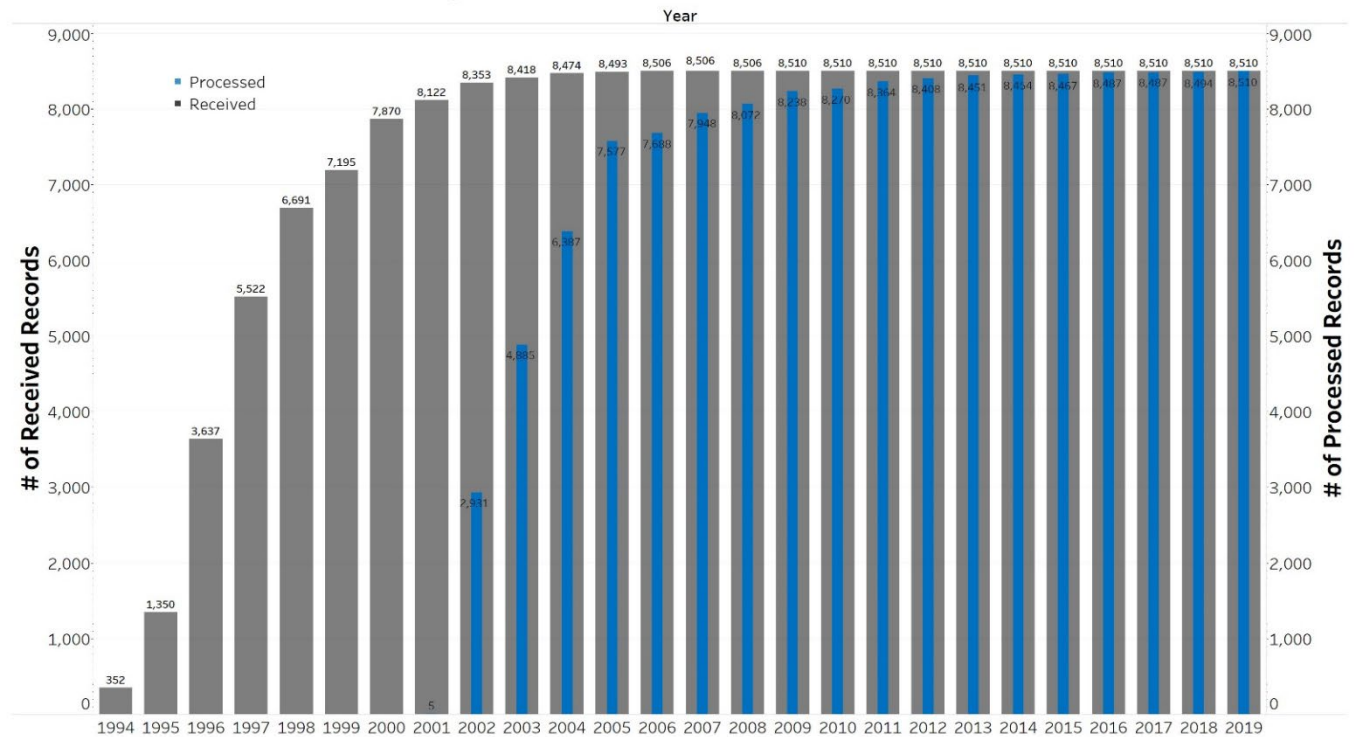
## Radiation Therapy Record Status as of April 2022: Original (diagnosed 1970-1986) & Expanded Cohorts (diagnosed 1987-1999)

INSTITUTION (#)	Records received		Records processed		Body Region Dosimetry Status	
	Original	Expanded	Original	Expanded	Original	Expanded
Cohort						
Children's Hospital at Stanford University (04)	386	144	386	144	Complete	Ongoing
Nationwide Children's Hospital (16)	391	173	391	173	Complete	Complete
Children's Hospital of Los Angeles (22)	279	173	279	173	Complete	Complete
Children's Hospital of Philadelphia (20)	492	355	492	355	Complete	Complete
Children's Hospital of Pittsburgh (03)	387	254	387	254	Complete	Complete
Children's National Medical Center (07)	113	9	113	9	Complete	Complete
City of Hope (29)	-	55	-	55	-	Complete
Dana-Farber Cancer Institute (05)	428	240	428	240	Complete	Complete
Emory University (06)	69	226	69	226	Complete	Complete
Mayo Clinic (18)	299	-	299	-	Complete	-
Memorial Sloan-Kettering Cancer Center (09)	377	214	377	214	Complete	Complete
Minneapolis Children's Medical Center (19)	145	183	145	183	Complete	Complete
Riley Hospital for Children, IN University (24)	209	189	209	189	Complete	Complete
Roswell Park Cancer Institute (17)	221	96	221	96	Complete	Complete
Seattle Children's Hospital (12)	274	267	274	267	Complete	Complete
St. Jude Children's Research Hospital (15)	979	939	979	939	Complete	Complete
St. Louis Children's Hospital (21)	228	132	228	132	Complete	Complete
Texas Children's (Baylor) (10) (28)	220	104	220	104	Complete	Complete
Children's Hospital Colorado (02)	377	180	377	180	Complete	Complete
Toronto Hospital for Sick Children (13)	697	-	697	-	Complete	-
U.T.M.D. Anderson Cancer Center (08)	408	196	408	194	Complete	Ongoing
UAB/The Children's Hospital of Alabama (25)	97	91	97	91	Complete	Complete
UCLA Mattel Children's Hospital (23)	250	21	250	21	Complete	Complete
University of California at San Francisco (11)	236	109	236	108	Complete	Ongoing
University of Michigan - Mott Children's Hospital (26)	431	212	431	212	Complete	Complete
University of Minnesota (01)	370	84	370	84	Complete	Complete
UT - Southwestern Medical Center (27)	147	175	147	175	Complete	Complete
Children's Hospital of Orange County (30)	-	86	-	83	-	Ongoing
University of Chicago Comer Children's (31)	-	88	-	87	-	Ongoing
Lurie Children's Hospital of Chicago (32)	-	134	-	133	-	Ongoing
Cook Children's Medical Center (33)	-	94	-	94	-	Ongoing
Total by cohort	8510	5223	8510 (100%)	5215 (99.7%)	8510 (100%)	4879 (94%)
Combined Total	13733		13725 (99.9%)		13389 (94.1%)	

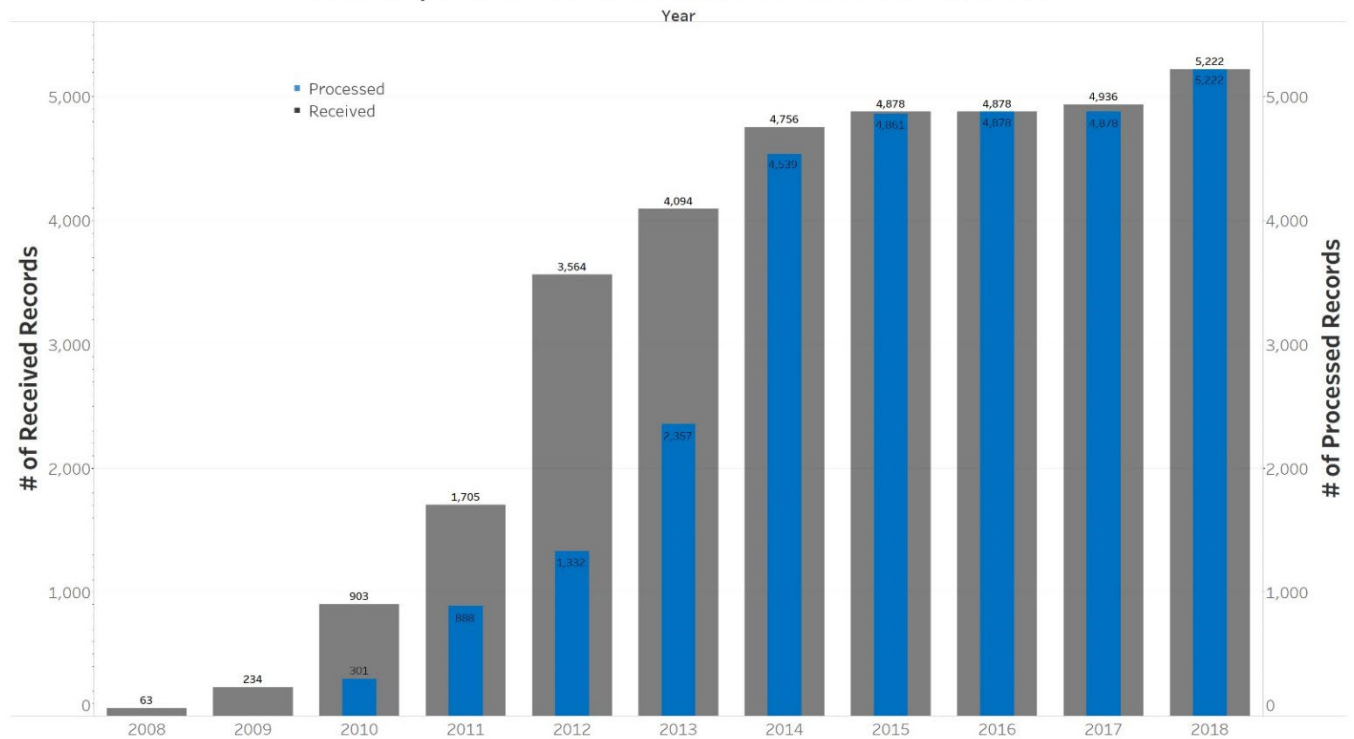
## CCSS Overall Cohort: Score for Radiotherapy Information Received



## CCSS Original Cohort Status of Records Received



## CCSS Expansion Cohort Status of Records Received



## Summary of RT Data Analysis Completed Prior to 2015

Study (Proposal #)	Study PI	Number exposed to RT or in study	Dosimetry required	Dosimetry status
<b>Case control studies</b>				
CNS SMNs	<i>Neglia</i>	452	Dose to specific tumor locations	Complete Sept 2003
Thyroid SMNs	<i>Sigurdson</i>	293	Dose to thyroid and pituitary.	Complete Mar 2003
Breast SMNs	<i>Inskip</i>	463	Dose to specific breast locations	Complete Jul 2005
Pregnancy Outcomes	<i>Boice</i>	2100	Dose to gonads, uterus, pituitary	Complete Jul 2004
Bone/ Soft Tissue SMNs	<i>Henderson</i>	438	Dose to specific tumor locations	Complete Apr 2007
Non-melanoma Skin Ca	<i>Mertens</i>	612	Dose to specific tumor locations	Complete Apr 2010
Renal carcinoma	<i>Wilson / Ness</i>	~8500	Average kidney doses (left and right reported separately)	Complete Aug 2011
<b>Cohort studies</b>				
Thyroid Function	<i>Sklar</i>	1415	Dose to thyroid	Complete Mar 1999
Obesity	<i>Oeffinger</i>	3931	Brain dose in 500 cGy categories	Complete Nov 2000
CNS Non-Neurological Outcomes	<i>Gurney</i>	1219	Dose categories for brain, spine, thyroid, ovaries	Complete Oct 2001
CNS Neurological Outcomes	<i>Packer</i>	1219	Dose to 4 regions of brain	Complete Oct 2001
CNS Psychological	<i>Zebrack &amp; Turk</i>	1219	Dose to 4 regions of the brain	Complete Aug 2002
Pregnancy Outcomes	<i>Green</i>	1327	Pituitary dose categories: females	Complete Sept 2002
Growth Hormone	<i>Sklar</i>	176	Dose for pituitary and direct spine	Complete Sept 2002
Premature Menopause	<i>Sklar</i>	1565	Pituitary, uterus and ovaries.	Complete Mar 2003
Stroke	<i>Oeffinger</i>	8583	Dose to 4 brain regions	Complete Dec 2003
Low birth weight and premature births	<i>Boice</i>	728	Proximity of gonads to treatment field	Complete Jun 2004
Ovarian Failure	<i>Sklar</i>	203	Dose to ovaries, uterus & pituitary	Complete Aug 2004
Wilms	<i>Breslow</i>	678	Dose to chest, abdomen, pelvis	Complete Jan 2004
Growth hormone use and meningiomas	<i>Sklar</i>	~8500	Maximum dose to any part of the brain	Complete Jul 2005
Pulmonary Function	<i>Mertens</i>	~8500	First-pass regions treated	Complete 2005
Osteoporosis and avascular necrosis	<i>Kadan-Lottick</i>	~8500	Dose to gonads and pituitary and maximum brain dose	Complete Dec 2005
Fertility among survivors	<i>Green</i>	5624	Dose to gonads and pituitary	Complete Oct 2005, Jan 2006, Sept 2007
Bone Marrow Transplant	<i>Baker/ Chow</i>	379	Dose to cranium	Complete Mar 2006
Dental Outcomes	<i>Kaste</i>	5632	Total average dose to the teeth	Complete Nov 2006
Thyroid exposure /ALL patients	<i>Chow</i>	2389	Dose to thyroid and pituitary	Complete Feb 2007
Stillbirth and neonatal death	<i>Boice / Signorello</i>	2805	Dose to ovaries, uterus, testes, pituitary	Complete Jun 2006
Menarche timing	<i>Armstrong</i>	299	Dose to ovaries and pituitary	Complete Feb 2007
Hodgkin Disease Outcomes	<i>Castellino</i>	1551	Dose range to body regions	Complete Jun 2007
Carotid Artery Dose	<i>Ness/Gurney</i>	50	Dose to the carotid artery	Complete Jul 2007

Study (Proposal #)	Study PI	Number exposed to RT or in study	Dosimetry required	Dosimetry status
Thyroid exposure /entire cohort	<i>Bhatti / Sigurdson</i>	8494	Dose to thyroid	Complete Nov 2007
BRIEF neuro-psych outcomes	<i>Ness</i>	~8500	Dose to 4 brain regions	Complete Nov 2007
Cardiac outcomes	<i>Mulrooney</i>	~8500	Average dose to heart	Complete Feb 2008
Cataract cohort	<i>Chodick / Inskip</i>	~8500	Dose to lens	Complete Feb 2008
Visual complications	<i>Mertens / Whelan</i>	~8500	Dose to eye and brain	Complete Feb 2008
Breast screening	<i>Oeffinger</i>	3913	Yes/No and body region treated	Complete Feb 2008
Pain	<i>Ness</i>	~8300	Body sites, dose to 4 brain regions	Complete Apr 2008
Salivary gland tumors	<i>Inskip</i>	~8500	Dose to salivary glands or sites of treatment	Complete May 2008
Psychosexual outcomes/ females	<i>Sklar</i>	1412	Dose to ovaries and pituitary	Complete Feb 2009
Wilms Tumor long term follow-up	<i>Termuhlen</i>	717	Dose to heart and kidneys	Complete Oct 2009
TBI/BMT Leukemia Cohort	<i>Baker/ Chow</i>	2722	Dose to thyroid, gonads, brain, spine	Complete Jan 2010
Obesity	<i>Green</i>	5632	Pituitary	Complete Jan 2010
Fertility	<i>Green</i>	4023	Ovaries and pituitary	Complete Jan 2010
GI second cancers	<i>Henderson</i>	46	SMN site in/near/out treatment field	Complete Jan 2010
ECHOS	<i>Cox / Hudson</i>	883	Treatment dose and body region	Complete Jun 2010
Pregnancies during treatment	<i>Mulvihill</i>	16	Therapy records	Complete Sept 2010
GU complications	<i>Shnorhavorian / Sklar</i>	8507	Dose to kidneys, ureters, bladder	Complete Dec 2010
Stroke – first and recurrent	<i>Fullerton / Mueller</i>	8633	Maximum dose to brain – existing dosimetry CNS, HD, Leukemia	Complete Dec 2010
Functional Outcomes	<i>Ness / Marina</i>	1094	Maximum dose to limb, pelvis, chest	Complete Feb 2011
Pulmonary complications	<i>Huang</i>	1876	Average dose to heart and lungs for CNS patients	Complete Apr 2011
Cranial Radiation	<i>Brinkman</i>	6875	Maximum TD by brain region	Complete May 2011
Oocyte radiosensitivity	<i>Hamish</i>	4324	Dose to ovaries	Complete Mar 2011
CNS Longitudinal Patterns of Late Effects	<i>Hardie</i>	923	Maximum TD by brain region	Complete Oct 2011
Longitudinal Changes in Health Status	<i>Hudson / Oeffinger</i>	8507	Used existing maximum TD by region	Complete Feb 2011
Male Infertility	<i>Seidel</i>	7717	Dose to testes and pituitary	Complete Mar 2011
Obesity among ALL survivors	<i>Kamdar</i>	1215	Maximum TD to spine and brain regions	Complete Nov 2011
Cardiac Outcomes – Risk model	<i>Chow</i>	8507	Maximum TD to chest and abdomen, heart average	Complete Jan 2012
BCC SMN – Genetic Risk	<i>Davies</i>	1282	Maximum TD by body region and brain region	Complete Nov 2012

Study (Proposal #)	Study PI	Number exposed to RT or in study	Dosimetry required	Dosimetry status
NCI-GWA SMN risk	<i>Morton</i>	8507	Maximum TD by body region and brain region + specific organs and ABM for GWAS group	Complete - Body region dosimetry Dec 2013; other organs Dec 2014, ABM for GWAS subgroup Feb 2014
NCI-GWA – methods (13-16)	<i>Morton</i>	8507	Comparison of radiation dose reconstruction methods for SMN studies	Complete - Body region dosimetry Dec 2013; other organs Dec 2014
Lifestyle factors and pregnancy outcomes	<i>Gawade</i>	3567	Females. Ovary, uterus and pituitary dose previous run.	Complete Oct 2012
HL-Health Status	<i>Effinger</i>	1675	Maximum TD by body region-update	Complete Nov2012
Ewings – Longitudinal (12-09)	<i>Marina</i>	575	Maximum TD by body region	Complete Jul 2013
Exercise	<i>Jones</i>	14370	Maximum TD by body region	Complete Aug 2013
Intestinal obstruction (13-07)	<i>Mandenci</i>	14370	Maximum TD by body region	Complete Aug 2013
STS chronic disease (13-04)	<i>Mueller</i>	1726	Maximum TD by body region	Complete Oct 2013
Pulmonary (13-11)	<i>Dietz</i>	12846	Maximum TD by body region +lung dose	Complete Mar 2014
Testicular SMN	<i>Oeffinger</i>	14370	Maximum TD by body region + testes dose and testes proximity to nearest treatment field	Complete Dec 2013
Disease Burden (14-03)	<i>Yeh</i>	14364	Maximum TD by body region +heart dose	Complete Mar 2014
Alcohol consumption (13-20)	<i>Brinkman</i>	3806	Maximum TD to brain segments + TBI	Complete Apr 2014
Cost Effectiveness of COG LTFU screening guidelines for breast (12-14)	<i>Wong</i>	6645 (females)	Maximum TD to the chest, pelvis, TBI dose, Mantle Y/N, typical breast quadrant for patients with mantle treatments	Complete Aug 2014
Endocrine (14-02)	<i>Mostoufi-Moab</i>	14290	Maximum TD to body regions + thyroid, pituitary and gonads	Complete Sept 2014

# Applications of Intent (AOI) to Conduct Research

Date Received	Title	Author/ Institution	Secondary Working Group(s)	Date Investigator Notified	AOI Outcome	Concept to Publication Committee
<b>CANCER CONTROL AND INTERVENTION</b>						
05.21.08	The Influence of Geographical Proximity to a Cancer Center on Risk Based Care among Childhood Cancer Survivors	Caplin/Utah Oeffinger/MSKCC		06.10.08	Approved	Approved
05.27.08	Longitudinal Changes in Health Status	Hudson/SJCRH	Chronic Disease Psychology	07.16.08	Approved	Approved
06.02.08	Risk-Based Health Evaluation of CCSS Participants (CPIR)	Green/SJCRH	Chronic Disease	07.16.08	Approved	Approved
06.05.08	A Comparison of Functional Outcomes between Sarcoma Survivors with Surgery or Radiation As Their Local Control	Marina/Stanford	Chronic Disease	07.16.08	Approved	Approved
06.05.08	Physical Activity in Lower Extremity Sarcoma Survivors with Amputation	Ness/SJCRH	Chronic Disease	07.16.08	Approved	Approved
06.05.08	A Comparison of Functional Outcomes between UE and LE Sarcoma Survivors	Marina/Stanford	Chronic Disease	07.16.08	Approved	Approved
06.05.08	Neurocognitive Problems and Health Behavior Outcomes	Krull/SJCRH	Psychology	07.16.08	Approved	Approved
06.18.08	Understanding Health Care Utilization Patterns and Changes Occurring over a Decade: A Report from the Childhood Cancer Survivor Study	Casillas/UCLA		07.16.08	Approved	Approved
10.14.08	Investigating the Needs of Childhood Cancer Survivors: Understanding Residual Treatment Effects (INSURE) (Ancillary Study)	Cox/SJCRH	Chronic Disease	11.12.08	Approved	Approved
04.07.09	Predictors of Smokeless Tobacco Use among Survivors of Childhood Cancer	Klosky/SJCRH		05.12.09	Approved	Approved
06.21.09	Mental Health and Tobacco Use Among Childhood Cancer Survivors: A Longitudinal Analysis	Lown/Alcohol Research Group	Psychology	07.10.09	Approved	Approved
08.06.09	Identifying Intervention Targets to Increase Mammography Screening among At-Risk Childhood Cancer Survivors	Cox/SJCRH	SMN	09.09.09	Approved	Approved
11.13.09	Prevalence and Predictors of Smoking Cessation in Childhood Cancer Survivors	Gibson/SJCRH		12.22.09	Approved	Approved
02.12.10	Mental Health, Tobacco & Alcohol Use in Survivors and Siblings (Ancillary Study)	Lown/Alcohol Research Group		03.03.10	Approved	Not Funded
03.08.10	Determinants of Employment	Stone/UCLA			Withdrawn due to overlap	_____
06.10.10	Longitudinal Assessment of Physical Activity	Ness/SJCRH	Chronic Disease Psychology	06.25.10	Approved	Approved
03.16.11	Diet and Insulin Resistance in Survivors of Childhood Leukemia	Tonorezos/Sloan Kettering	Chronic Disease	03.29.11	Approved	Not Approved
03.16.11	Risk Reduction Strategies To Prevent Subsequent Skin Cancer	Geller/Harvard	SMN Epi/Biostats	03.29.11	Approved	Approved

Date Received	Title	Author/ Institution	Secondary Working Group(s)	Date Investigator Notified	AOI Outcome	Concept to Publication Committee
03.22.11	Longitudinal Changes of Health Risk Factor Clusters and Relationship to Morbidity in Adult Survivors of Childhood Cancer	Hijiya/Northwestern	Chronic Disease Psychology	04.13.11	Approved	Approved
04.13.11	Modifiable Lifestyle Factors and Risk of a Secondary Breast Cancer	Rosenberg/Harvard	SMN		Withdrawn	_____
04.14.11	Cost-effectiveness of Colorectal Cancer Screening Among Survivors Treated with Abdominal Radiation Therapy	Hodgson/Princess Margaret Hospital	SMN	05.30.11	Approved	_____
06.15.11	Chronic Health Conditions and Employment Status Transitions for Childhood Cancer Survivors	Kirchhoff/Huntsman Cancer Institute Salt Lake City	Chronic Disease	07.26.11	Approved	Approved
06.30.11	The Impact of Location and Type of Follow-Up Care On Morbidity and Mortality in Childhood Cancer Survivors	Nathan/Sick Kids	Chronic Disease Epi/Biostats	07.13.11	Approved	Withdrawn
08.01.11	Health Behaviors and Mammogram Utilization in the CCSS	Rosenberg/Harvard School of Public Health	Psychology	08.16.11	Approved	Approved
09.09.11	The Health System Use and Cost Implications of Amputation vs. Limb Salvage Surgery	Conti/University of Chicago	Psychology	09.23.11	Approved	Withdrawn
09.29.11	Colorectal Screening Practices of Survivors of Childhood Cancer at Risk for Secondary Colorectal Malignancies	Kohler/UAB	SMN Psychology	11.07.11	Approved	Approved
12.02.11	Health Status Outcomes in Survivors of Hodgkin Lymphoma	Marina/Stanford			Withdrawn	_____
12.06.11	Evaluation of the Association Between Lifestyle Factors and Pregnancy Outcomes	Gawade/SJCRH	Epi/Biostats Psychology	01.04.12	Approved	Approved
12.09.11	Information Needs of Childhood Cancer Survivors and their Families	Mendonca/U. of Wisconsin	Epi/Biostats	01.04.12	Approved	Not Approved
01.27.12	Influence of Lifestyle on Site-Specific Cumulative Incidence for Second Primary Malignancies in Five-Year Survivors of a Childhood Cancer	Kovalchik/NIH	SMN	03.07.12	Withdrawn	_____
03.01.12	Tobacco Use Among Adult Siblings of Childhood Cancer Survivors	Buchbinder/CHOC	Psychology	03.21.12	Approved	Approved
04.26.12	Association Between Exercise Behavior and Incidence of Non-cancer Chronic Health Conditions	Jones/Duke	Chronic Disease Psychology	05.10.12	Approved	Approved
06.07.12	Receipt of a Treatment Summary and Its Relationship to Morbidities and Premature Mortality	Ford/MSKCC		07.16.12	Approved	Approved
06.07.12	Association of Surgical Procedure to Health Status in Sarcoma Survivors	Avedian/Stanford	Chronic Disease	07.16.12	Approved	Withdrawn
06.20.12	The Consequences of Childhood Cancer on Employer-Sponsored Health Insurance and Social Security Benefits	Kirchhoff/Utah		07.16.12	Approved	Approved
07.11.12	Survival Burden in Childhood Cancer Survivors	Henderson/Univ. of Chicago	Chronic Disease SMN	08.28.12	Withdrawn	-----
09.11.12	Longitudinal Evaluation of Chronic Disease and Health Perceptions in Soft Tissue Sarcoma Survivors	Mueller/Univ. of Michigan	Chronic Disease Psychology	09.18.12	Approved	Approved
09.17.12	The Socio-economic Outcomes of Siblings of Childhood Cancer Survivors	Henderson/Univ. of Chicago		10.05.12	Approved	On Hold

Date Received	Title	Author/ Institution	Secondary Working Group(s)	Date Investigator Notified	AOI Outcome	Concept to Publication Committee
10.24.12	Cancer Screening in Childhood Cancer Survivors: Grounded Theory and Discourse Analysis	Tripp/MD Anderson		11.20.12	Approved	Withdrawn
11.01.12	Evaluating Socioeconomic and Health-Related Pathways That Predict Smoking in Survivors of Childhood Cancer	Erinosho/UNC	Psychology	11.20.12	Approved	Withdrawn
11.19.12	Health Beliefs and Behaviors: Cohort Studies in Childhood Cancer Survivors ( <a href="#">Ancillary Study</a> )	Henderson/University of Chicago	SMN	01.10.13	Approved	_____
05.21.13	The Impact of Chronic Disease on Health Care Utilization in the CCSS Cohort	Nathan/Sick Kids		05.30.13	Approved	Approved
05.21.13	Health Status Among Adult Survivors of Childhood Cancer by Treatment Era	Ness/SJCRH		05.30.13	Approved	Approved
06.10.13	Social Outcomes in Aging Hodgkin Lymphoma Survivors	Effinger/Stanford		07.23.13	Not Approved	_____
07.07.13	EQUAL: Exercise and Quality Diet After Leukemia ( <a href="#">Ancillary Study</a> )	Tonorezos/MSKCC	SMN Psychology	07.24.13	Approved	Pending
08.05.13	Longitudinal Evaluation of Health Status and Social Functioning in Survivors of Pediatric Astrocytomas	Effinger/Stanford	Chronic Disease Psychology	08.19.13	Approved	Approved
08.06.13	Examining the Role of Transitional Care in Facilitating Quality Clinical Health Care and Preventive Services for Adults Survivors of Childhood Cancer	Mertens/Emory			On Hold	On Hold
08.09.13	Health Care Utilization for Childhood Cancer Survivors: A Report from the Childhood Cancer Survivor Study	Mueller/U. of Michigan	Chronic Disease	08.19.13	Approved	Approved
08.30.13	The Impact of Endocrine Disorders on Physical Activity and Functional Outcomes	Pradhan/ Riley	Psychology Chronic Disease	09.26.13	Approved	Approved
09.24.13	Behavioral and Psychosocial Predictors of Health Behaviors among Adolescent/Young Adult Survivors	Wu/Univ. of Utah	Psychology	10.07.13	Withdrawn	_____
10.23.13	Social Support and Health Care Utilization	Wu/Univ. of Utah	Psychology Chronic Disease	11.07.13	Approved	Withdrawn
11.02.13	Stages of Change and Predictors of Mammography Practices of Female Survivors of Childhood Cancer and Siblings	Szalda/CHOP		12.05.13	Approved	Approved
01.06.14	Longitudinal Mammogram Practices	Moskowitz/MSKCC	SMN	02.11.14	Approved	Approved
01.05.14	Does Intention to Undergo Screening Mammography Predict Future Screening?	Ford/MSKCC	SMN	02.11.14	Approved	Withdrawn
04.23.14	EMPOWER Study: Promoting BC Screening in Women Who Survived Childhood Cancer ( <a href="#">Ancillary Study</a> )	Oeffinger/MSKCC	SMN	04.23.14	Approved	Approved
04.23.14	ECHOS ( <a href="#">Ancillary Study</a> )	Hudson/SJCRH		04.23.14	Approved	Approved
09.02.14	Patient-reported Concerns	Gibson/SJCRH	Epi/Biostats Psychology	09.21.14	Approved	Approved
10.06.14	Physical Functioning in Pediatric Leukemia and Lymphoma Survivors	Le/Yale		10.06.14	Approved	Withdrawn

Date Received	Title	Author/ Institution	Secondary Working Group(s)	Date Investigator Notified	AOI Outcome	Concept to Publication Committee
10.17.14	Financial Burden of Medical Care	Fair/University of Utah	Chronic Disease	10.06.14	Approved	Approved
11.24.14	Understanding Experiences of Childhood Cancer Survivors after ACA Implementation (HINT) (Ancillary Study)	Park/Harvard	Chronic Disease	12.17.14	Approved	Approved
11.24.14	Financial Burden in Survivors of Childhood Cancer	Nip/Harvard		12.17.14	Approved	Approved
12.05.14	Health Status in Extremity Sarcoma Survivors	Marina/Stanford	Chronic Disease	12.23.14	Approved	Withdrawn
12.05.14	Trajectory of Mammography and Breast MRI among High-Risk Women	Ford/MSKCC		12.23.14	Approved	Pending
06.11.15	Effects of Home-based Interval Training on Fitness and Physical Activity (Ancillary Study)	Ness/SJCRH	Chronic Disease Epi/Biostats	08.12.15	Approved	Pending
11.20.15	Return of Genomic Results to Research Participants (Ancillary Study)	Henderson/University of Chicago	Genetics Psychology	12.02.15	Approved	Withdrawn
11.20.15	Advancing Skin Cancer Screening Practices among Survivors of Childhood Cancer and Skin Cancer (ASK2) (Ancillary Study)	Geller/Harvard School of Public Health	SMN	12.02.15	Approved	Withdrawn
01.21.16	EMPOWER II Study: Promoting BC Screening in Female Survivors and Their Physicians (Ancillary Study)	Oeffinger, Ford/MSKCC	SMN	02.23.16	Approved	Pending
11.22.16	Compliance with Surveillance for SMNs and Cardiac Dysfunction in CCSS	Nathan/Hospital for Sick Children	Chronic Disease SMN	12.08.16	Approved	Approved
12.06.16	Exercise and Late Mortality in 5-Year Survivors of Childhood Cancer	Jones/MSKCC	Chronic Disease Epi/Biostats	12.16.16	Approved	Approved
03.07.17	Health Care Utilization and Estimated Costs Among Survivors of Childhood Cancer	Nathan/Sick Kids	Chronic Disease Epi/Biostats	04.04.17	Approved	Approved
06.07.17	Intervening on Reproductive Health in Young Adult Leukemia and Lymphoma Survivors (Ancillary Study)	Su/UC San Diego	Chronic Disease	07.25.17	Approved	Pending
07.28.17	Improving Delivery of Genetic Services to High Risk Childhood Cancer Survivors: A Randomized Study (ENGAGE) (Ancillary Study)	Henderson/University of Chicago	Genetics	08.11.17	Approved	Pending
12.15.17	Prevalence and Predictors of Frailty in Childhood Cancer Survivors and Siblings	Hayek/SJCRH	Chronic Disease Epi/Biostats Psychology	01.03.18	Approved	Approved
08.19.18	Symptom Assessment and Management (SAM) Using mHealth for Childhood Cancer Survivors (Ancillary Study)	Huang/SJCRH		08.30.18	Approved	Withdrawn
08.19.18	Colorectal Cancer Screening Intervention in Childhood Cancer Survivors (ASPIRES) (Ancillary Study)	Henderson/University of Chicago	Chronic Disease	08.30.18	Approved	Pending
09.25.18	Temporal Changes in Employment Outcomes of Survivors of Childhood Cancer: A Report from the Childhood Cancer Survivor Study (CCSS)	Bhatt/SJCRH	Chronic Disease	09.29.18	Approved	Approved
11.04.18	Internet-delivered Cognitive Behavioral Pain Management for Pediatric Cancer Survivors with Chronic Pain: RCT (Ancillary Study)	Alberts/SJCRH	Psychology	12.19.18	Approved	Pending
11.04.18	Cardiovascular Autonomic Dysfunction as a Late Treatment Effect in Survivors of Childhood Cancer (Ancillary Study)	Groarke/Brigham and Women's Hospital	Chronic Disease Epi/Biostats	12.19.18	Approved	Pending

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01.30.19	Evaluation of Cardiovascular Health Outcomes among Survivors 2 (ECHOS-2) (Ancillary Study)	Ehrhardt/SJCRH	Chronic Disease	02.08.19	Approved	Pending
03.22.19	Screening Predictors for Thyroid Malignancy in Childhood Cancer Survivors	Mostoufi-Moab/CHOP	Chronic Disease SMN	04.10.19	Approved	Pending
04.11.19	Use and Correlates of Carotid Ultrasound in Survivors of Childhood Cancer	Tonorezos/MSKCC	Chronic Disease	04.30.19	Approved	Approved
09.18.19	Understanding Coverage Continuity, Healthcare Utilization, and Cost among Childhood Cancer Survivors Within the Medicaid System	Ji/Emory University	Psychology Chronic Disease	09.27.19	Approved	Approved
03.12.20	Adherence to and Effectiveness of Survivorship Care Guidelines in CCSS (Ancillary Study)	Ehrhardt/SJCRH	Psychology	03.23.20	Approved	Pending
04.14.20	Disparities in Adherence to Screening Guidelines in Hodgkin's Lymphoma Survivors	Shoag/University of Miami	Chronic Disease	04.27.20	Approved	Approved
06.08.20	Managing Comorbid Conditions in Childhood Cancer Survivors: Communication, Coordination, and Continuity (Ancillary Study)	Snyder/Johns Hopkins School of Med	Chronic Disease	06.18.20	Approved	Pending
10.05.20	Financial Hardship Among Adult Survivors of Pediatric Hematopoietic Stem Cell Transplantation	Buchbinder/CHOC	Epi/Biostatistics	10.15.20	Approved	Approved
12.16.20	Impact of Community Economic Characteristics on Financial Hardship among Adolescent and Young Adult Cancer Survivors	Fauer/UCLA	Epi/Biostatistics	12.28.20	Approved	Approved
04.20.21	Assessing the Effect of Virtual Navigation Interventions to Improve Health Insurance Literacy and Decrease Financial Burden: A CCSS Randomized Trial (Ancillary Study)	Park/Mass General Hospital	Psychology	04.30.21	Approved	Approved
08.26.21	Medical financial hardship among long-term survivors of childhood cancer and their siblings in the Childhood Cancer Survivor Study (CCSS) in comparison to the general population	Ohlsen/Seattle Children's	Psychology	09.07.21	Approved	Approved
<b>CHRONIC DISEASE</b>						
05.02.08	Genitourinary Complications in Survivors of Childhood Cancer	Shnorhavorian/FHRC		06.10.08	Approved	Approved
06.05.08	The Risk of Osteoporosis and Fracture among Survivors of Childhood Cancer	Kadan-Lottick/Yale University		06.15.08	Approved	Approved
06.06.08	Cardiovascular Risk Factors and CV Events	Meacham/Emory University	Epi/Biostats	07.16.08	Approved	Approved
06.06.08	Solid Organ Transplantation in 5-year Survivors of Childhood Cancer.	Termuhlen/Nationwide Children's Hospital		07.11.08	Approved	Approved
06.11.08	Infectious Complications in Childhood Cancer Survivors	Perkins/Children's Hospitals & Clinics of Minnesota		07.11.08	Approved	Approved
06.12.08	A Comparison of Mortality and Morbidity in Hodgkin's Survivors of Contemporary Therapy	Castellino/Wake Forest University	SMN	07.11.08	Approved	Withdrawn
06.13.08	Determination of Risk Factors for Stroke Among Survivors of Childhood Hodgkin's Disease - A Case:Control Study	Bowers/U.T. Southwestern Medical Center at Dallas		07.11.08	Approved	Withdrawn

Date Received	Title	Author/ Institution	Secondary Working Group(s)	Date Investigator Notified	AOI Outcome	Concept to Publication Committee
07.01.08	Adverse Neurologic Sequelae Are Predictors of Poor Outcome in Survivors of Childhood Central Nervous System Tumors and Leukemia: A Report from the Childhood Cancer Survivor Study	Ulrich/Children's Hospital Boston/Dana-Farber Cancer Center	Psychology	08.11.08	Approved	Withdrawn
09.02.08	Long-term Outcomes in Adult Survivors of Childhood Cancer: A Comparison of Conventional Therapy and Hematopoietic Cell Transplantation (HCT)	Armenian/City of Hope	Psychology Cancer Control Epi/Biostats	09.19.08	Approved	Approved
09.25.08	Fertility of Female Survivors of Acute Lymphoblastic Leukemia	Green/SJCRH		10.14.08	Approved	Approved
11.11.08	Late DVT Risk in Cancer Survivors	Setia/Memorial Sloan Kettering		12.02.08	Approved	Withdrawn
03.11.09	Creation of a Risk Score Algorithm to Predict Individual Risk of Future Serious Cardiovascular Disease	Chow/FHRC	Cancer Control	04.03.09	Approved	Approved
06.11.09	Outcome of Pregnancies Exposed to Cancer Therapy	Mulvihill/U. of Oklahoma	Genetics	07.10.09	Approved	Approved
06.19.09	The Multifactorial Etiology of Obesity among CCSS Participants	Green/SJCRH	Psychology	07.10.09	Approved	Approved
07.14.09	Renal Outcomes	Nottage/SJCRH			Withdrawn due to overlap	_____
09.08.09	Pulmonary Complications in Long-term Survivors of Childhood CNS Tumors with Craniospinal Irradiation	Tein/SJCRH	Psychology	10.06.09	Approved	Approved
11.09.09	Diseases of the Thyroid Gland Associated with Radiation Therapy: A Report from the Childhood Cancer Survivor Study	Viega/NCI	SMN	11.20.09	Approved	Approved
01.29.10	Longitudinal Assessment of Chronic Health Conditions	Armstrong/SJCRH		02.12.10	Approved	Approved
02.26.10	Health and Functional Status of Long-Term Adult Medulloblastoma Survivors	King/Wash. U.	Psychology SMN	03.31.10	Approved	Approved
03.04.10	Health Status of Older Adult Survivors of Childhood Cancer	Kenney/DFCI	Psychology Epi/Biostats	03.31.10	Approved	Withdrawn
04.20.10	Scoring Alkylating Agent Exposure: Evaluation of the Cyclophosphamide Equivalent Dose Score	Green/SJCRH	SMN Epi/Biostat	5.18.10	Approved	Approved
05.12.10	Evaluation of Long-term Outcomes in Ewing Sarcoma Survivors	Marina/Stanford	SMN	6.17.10	Approved	Approved
06.10.10	Neurologic and Neurosensory Deficits in Long-term Survivors of Childhood Brain Tumors: Occurrence of New Deficits and Effects of Aging in Occurrence as Assessed in 2007 Survey	Wells/Children's National	SMN Psychology	6.25.10	Approved	Approved
06.24.10	Premature Menopause in Survivors of Childhood Cancer	Levine/Columbia		07.06.10	Approved	Approved
11.05.10	Infertility and Use of Fertility Treatments	Barton/Brigham & Women's		11.23.10	Approved	Approved
02.18.11	BMI and Diabetes Mellitus in Survivors of ALL	Tonorezos/MSKCC	Cancer Control	03.16.11	Approved	Not Approved
04.22.11	Changes in BMI Among Adult Survivors of Childhood CNS Tumors	Chang/MD Anderson	Psychology	05.03.11	Approved	Approved
05.23.11	Longitudinal Analysis of Outcomes for Acute Lymphoblastic Leukemia Survivors	Dilley/Northwestern	Cancer Control	05.30.11	On Hold	Withdrawn
05.06.12	Chronic Medical Conditions Among Long-term Survivors of Pediatric Non-Hodgkin Lymphoma	Bluhm/Washington Hospital	Epi/Biostats Psychology		On Hold	_____
06.07.12	Longitudinal Pulmonary Complications in Survivors of Childhood Cancer	Dietz/UCSD	Epi/Biostats	07.16.12	Approved	Approved

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06.07.12	Using the Cumulative Illness Rating Scale to Characterize The Burden of Chronic Conditions Among Childhood Cancer Survivors	Esbenshade/SJCRH	Epi/Biostats	07.16.12	Approved	Approved
06.07.12	Increasing Risk of Chronic Endocrine Disorders in Aging Survivors of Childhood Cancer	Mostoufi-Moab/ CHOP		07.16.12	Approved	Approved
06.15.12	Medical and Psychosocial Outcomes of Survivors of AYA Cancer	Suh/U. of Chicago	Cancer Control Psychology	07.16.12	Approved	Approved
06.16.12	Morbidity and Mortality Associated with the Diagnosis of Subsequent Meningiomas – Is it Necessary to Screen Adult Survivors of Childhood Cancer for Meningiomas?	Bowers/UT Southwestern	SMN	07.16.12	Approved	Approved
08.20.12	Long-term Risk of Small Bowel Obstruction in Pediatric Patients with Primary Abdominal Tumors	Diller/Harvard	Epi/Biostats	08.28.12	Approved	Approved
05.31.13	Changes in Long-Term Outcomes in Hodgkin Lymphoma Survivors with Contemporary Risk-Adapted Therapy	Oeffinger/MSKCC	Epi/Biostats SMN Cancer Control	07.23.13	Approved	Approved
06.10.13	Effects of Body Mass Index on Aging Childhood Cancer Survivors	Effinger/Stanford	Cancer Control	07.23.13	Not Approved	_____
07.31.13	Predictors of Hypertension in Adult Survivors of Childhood Cancer	Ojha/SJCRH	Psychology Epi/Biostats	08.19.13	Approved	Withdrawn
09.27.13	Anthracycline Equivalence	Feijen/Emma Children's	Epi/Biostats	10.14.13	Approved	Approved
09.27.13	Fertility following Contemporary Chemotherapy	Chow/ Univ. of Washington		10.14.13	Approved	Approved
11.07.13	Estimating the Burden of Disease Associated With Late-Effects Among Childhood Cancer Survivors	Yeh/Harvard		12.05.13	Approved	Approved
11.16.13	Updated Prevalence of Long-Term Survivors of Childhood Cancer and Estimated Burden of Morbidity Using SEER and CCSS	Phillips/NCI	Psychology	12.05.13	Approved	Approved
12.11.13	Analysis of Dose Response For Circulatory Disease in the Childhood Cancer Survivor Study Cohort with a Focus on Non-Cardiac Doses	Little/NCI	Epi/Biostats	01.16.14	Approved	Withdrawn
09.02.14	Chronic Health Conditions in Survivors Treated with Abdominal Radiation	Friedman/MSKCC	SMN	09.21.14	Approved	Approved
10.16.14	Comparison of Risks of Long-Term Outcomes with the British CCSS	Fidler/University of Birmingham, UK	SMN Epi/Biostats	10.28.14	Approved	Approved
11.11.14	Long-term Cardiovascular Mortality of Childhood Cancer Survivors - Safety and Efficacy of Percutaneous Coronary Interventions (PCI)	Iliescu/MD Anderson	Epi/Biostats	12.01.14	Approved	Withdrawn
11.11.14	Esophageal Strictures After Childhood Cancer Therapy: Experience from Three Childhood Cancer Survivor Cohorts	Asdahl/Aarhus University		12.01.14	Approved	Approved
11.25.14	Racial Variations in Renal Function after Nephrectomy for Wilms Tumor	Christison-Legay/Yale		12.23.14	Approved	Withdrawn
12.05.14	Morbidity and Mortality in Underweight Survivors of Childhood Cancer	Tonorezos/MSKCC		12.23.14	Approved	Approved
12.05.14	Long-term Morbidity in Survivors of CML	Hijjiya/Northwestern			Withdrawn	
12.19.14	Improving Assessment and Treatment of Cardiovascular Risk Factors (Ancillary Study)	Chow/Univ. of Washington	Cancer Control	01.15.15	Approved	Pending
01.27.14	Cardiac Outcomes in Long-Term Survivors of Childhood Cancer	Mulrooney/SJCRH	Epi/Biostats	02.22.15	Approved	Approved

Date Received	Title	Author/ Institution	Secondary Working Group(s)	Date Investigator Notified	AOI Outcome	Concept to Publication Committee
01.27.15	Chronic Health Conditions in Survivors of Non-Hodgkin Lymphoma	Ehrhardt/SJCRH	Epi/Biostats	02.22.15	Approved	Approved
05.05.15	Assessment of Hearing Impairment in Long-Term Survivors of Childhood Cancer	Brown/Baylor	Epi/Biostats	05.25.15	Approved	Approved
05.11.15	Analysis of Non-Alcoholic Fatty Liver Disease as a Modifier of Cardiovascular Disease Risk	Ragunathan/MSKCC	Epi/Biostats	06.18.15	Approved	Withdrawn
06.09.15	Chronic Medical Conditions and Late Mortality Among Survivors of Pediatric Bone Sarcomas	Daw/MD Anderson	Epi/Biostats	07.06.15	Approved	Approved
06.11.15	Incidence of Chronic Disease Among Survivors by Treatment Era and Temporal Trends in Treatment Exposure	Gibson/SJCRH	Epi/Biostats	08.12.15	Approved	Approved
07.21.15	Changes in Long-Term Outcomes in Neuroblastoma Survivors Treated with Contemporary Therapies	Friedman/MSKCC	Cancer Control/SMN	08.12.15	Approved	Approved
08.03.15	Anthracycline Equivalence II	Feijen/Emma Children's /AMC	Epi/Biostats	08.30.15	Approved	Approved
08.04.15	Impact of Childhood Cancer and Treatment on Sperm Quality (Ancillary Study)	Delbes/INRS		08.30.15	Approved	Withdrawn
08.12.15	Gallbladder Surgery Among Childhood Cancer Survivors	Barnea/MSKCC		08.30.15	Approved	Approved
08.13.15	The Role of Developmental Status in the Dose Response Relationship of Cardiac Radiation and Cardiac Toxicity	Bates/Univ. of Rochester	Epi/Biostats	08.30.15	Approved	Approved
08.21.15	Long-term Incidence of Venous Thromboembolism Among Survivors of Childhood Cancer	Madenci/Boston Children's Hosp.	Epi/Biostats	09.08.15	Approved	Approved
08.21.15	Long-term Incidence of Complications from Surgical Asplenia Among Survivors of Childhood Cancer	Weil/Boston Children's Hosp.	Epi/Biostats SMN	09.08.15	Approved	Approved
08.26.15	Dietary Intake and Risk of Subsequent Cardiometabolic Complications in Survivors of Childhood Acute Lymphoblastic Leukemia	Marcil/Sainte-Justine Univ. Health Center	Epi/Biostats	09.15.15	Approved	Withdrawn
08.31.15	Long-term Morbidity in Survivors of Childhood CML	Williams/Lurie Children's - Northwestern	Epi/Biostats Psychology SMN	09.15.15	Approved	Pending
09.09.15	Medulloblastoma and Primitive Neuroectodermal Tumor (PNET) Outcomes Across Three Decades of Diagnosis	Salloum/Cincinnati Children's Hospital	Epi/Biostats Psychology SMN	09.21.15	Approved	Approved
09.10.15	Mortality and Morbidity in Childhood Cancer Survivors: Comparing Results from the CCSS and a Nationwide Cohort in Taiwan	Yu/Taipei Cancer Center	Epi/Biostats SMN	09.21.15	Approved	Withdrawn
09.16.15	Incidence of Late Anorectal Complications among Childhood Cancer Survivors	Weldon/Boston Children's	Epi/Biostats	09.21.15	Approved	Approved
10.14.15	Comprehensive Comparative Analysis of Chronic Health Conditions, Health Status, Social Outcomes, and Mortality in Patients with Rhabdomyosarcoma by Treatment Era	Hingorani/Phoenix Children's Hospital	Cancer Control Epi/Biostats	11.30.15	Approved	Approved
12.08.15	Developing a Microsimulation Model of the Lifetime Clinical Course of Childhood Cancer	Yeh/Harvard School of Public Health	Genetics Epi/Biostats	01.20.16	Approved	Approved
04.08.16	Statin Therapy and Cardiovascular Disease Incidence in Childhood Cancer Survivors	Ragunathan/MSKCC	Epi/Biostats	04.22.16	Approved	Withdrawn

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04.09.16	Long-term Fertility Outcomes Following Ovarian Transposition	Glick/Cohen's Children Med Center	Epi/Biostats	04.22.16	Not Approved	_____
05.03.16	Cardiometabolic Outcomes Among Survivors of Childhood and Young Adult Cancer	Tonorezos/MSKCC	Cancer Control	05.16.16	Approved	Withdrawn
05.23.16	Health Related Outcomes After Chronic Myeloid Leukemia (comparison with contemporary treatment in COG cohort) <a href="#">(Ancillary Study)</a>	Roth/Children's Hospital at Montefiore	SMN Psychology	06.10.16	Approved	Withdrawn
07.25.16	Reproductive Outcomes for Survivors of Childhood Cancer <a href="#">(Ancillary Study)</a>	Woodruff/Northwestern	Epi/Biostats	08.24.16	Approved	Withdrawn
08.24.16	Infertility, Assisted Reproductive Technology Utilization and Pregnancy Outcomes: A CCSS and SART CORS data linkage study	Keefe/Brigham and Women's Hospital	Epi/Biostats	09.06.16	Approved	Approved
02.07.17	The Impact of Thyroid Hormone Replacement Therapy on the Cardiovascular Health Burden in Childhood Cancer Survivors	Kero/Turku University Hospital	Epi/Biostats	02.09.17	Not Approved	_____
06.15.17	Impact of Modifiable Lifestyle Behaviors on Risk of Serious Chronic Conditions and Evaluation of Interactions with Treatment Exposures	Gibson/SJCRH	Epi/Biostats	07.31.17	Approved	Withdrawn
07.04.17	Outcomes Across Three Decades of Diagnosis for Bone Tumors	Prasad/LSU	SMN Cancer Control Epi/Biostats	08.11.17	Withdrawn	_____
07.24.17	Changes in the Risk and Outcomes of Stroke in Survivors with Changing Treatment Protocols	Sun/Johns Hopkins	Psychology	08.11.17	Approved	Withdrawn
09.04.17	Prevalence and Risk of Frailty in Survivors of Childhood Cancer <a href="#">(Ancillary Study)</a>	Gibson/SJCRH	Psychology	09.20.17	Approved	Withdrawn
09.15.17	Long-Term Outcomes among Survivors of Childhood Ewing Sarcoma	Weldon/Boston Children's	SMN Epi/Biostats	09.29.17	Approved	Pending
09.28.17	Risk Factors for Overweight and Obesity in U.S. and Swiss ALL survivors: A CCSS and SCCSS study	Kuehni/University of Bern	Epi/Biostats Psychology	10.13.17	Approved	Approved
10.19.17	Impact of Chronic Health Conditions on Sexual Dysfunction in Female Childhood Cancer Survivors	Bjornard/SJCRH	Psychology	11.01.17	Approved	Approved
11.08.17	Changes in Long-term Outcomes among Survivors of Childhood Acute Lymphoblastic Leukemia	Dixon/SJCRH	SMN, Epi/Biostats Cancer Control Psychology	11.21.17	Approved	Approved
11.20.17	Outcomes in Survivors of Astrocytoma and Ependymoma Across Three Decades of Diagnosis and Treatment	Lange/MSKCC De Blank/CCHMC	SMN, Epi/Biostats Cancer Control Psychology	12.15.17	Approved	Approved
11.21.17	Exercise and Preventive Chronic Health Conditions and Health Care Utilization	Jones/MSKCC	Cancer Control SMN	12.15.17	Approved	Approved
01.03.18	Long-term Outcomes of Pelvic Sarcoma Based on Initial Treatment	Madenci/Boston Children's Murphy/SJCRH	SMN Epi/Biostats	01.17.18	Approved	Approved
01.04.18	Risk of Adverse Cardiometabolic Outcomes in Survivors Treated with Total Body Irradiation <a href="#">(Ancillary Study)</a>	Friedman/MSKCC		01.17.18	Approved	Approved

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01.29.18	Impact of Treatment Era on Long-Term Health Outcomes in Wilms Tumor Survivors	Weil/Boston Children's	SMN, Psychology Epi/Biostats	02.12.18	Approved	Approved
02.12.18	Long-term Renal Complications in Survivors of Childhood Cancer: CCSS and ALiCCS	Dieffenbach/Boston Children's	Epi/Biostats	03.06.18	Approved	Approved
03.07.18	Polypharmacy and Patterns of Prescription Medication Use among Childhood Cancer Survivors	Murphy/UT Southwestern	Cancer Control Psychology	03.23.18	Approved	Pending
04.10.18	Long-Term Outcomes among Survivors of Childhood Acute Myeloid Leukemia	Turcotte/U of Minnesota	SMN Epi/Biostats	04.24.18	Approved	Approved
06.12.18	Burden of Late Surgery in Survivors of Childhood Cancer	Dieffenbach/Boston Children's	Epi/Biostats	07.23.18	Approved	Approved
07.23.18	Patterns in Motor and Sensory Neuropathy and Associated Outcomes in Long Term Survivors of Childhood Cancer	Rodwin/Yale New Haven Hospital	Cancer Control Psychology	08.06.18	Approved	Approved
08.21.18	Incidence and Risk Factors for Cesarean Delivery in Female Survivors of Childhood Cancer	Dieffenbach/Boston Children's	Epi/Biostats		Withdrawn	_____
08.21.18	Influence of Radiotherapy Dose to Cardiac Substructures on Cardiac Risk in Long-Term Survivors of Childhood Cancer	Bates/University of Florida	Epi/Biostats	08.31.18	Approved	Approved
09.24.18	Impact of ACEi and Beta Blocker Use on Cardiovascular Disease in Survivors of Childhood Cancer	Bottinor/Vanderbilt University	Epi/Biostats	09.29.18	Approved	Approved
03.21.19	Risk factors for and outcomes of late amputation among survivors of childhood lower extremity sarcoma	Geiger/UCSF	Epi/Biostats	04.10.19	Approved	Approved
04.11.19	Disparities in Cardiovascular Outcomes among Childhood Cancer Survivors	Noyd/Duke University	Cancer Control Epi/Biostats Psychology	04.30.19	Approved	Approved
07.18.19	Late Outcomes in Survivors of Childhood Cancer Exposed to Platinum-Based Chemotherapy	Bhatt/FHCRC	SMN	08.05.19	Approved	Not Approved
08.05.19	Development and Validation of a Prediction Model for End-stage Renal Disease in Childhood Cancer Survivors	Wu/FHCRC	Epi/Biostats	08.21.19	Approved	Approved
09.11.19	Congenital Anomalies and Chronic Health Conditions among Childhood Cancer Survivors	Janitz/Univ Oklahoma	SMN	09.24.19	Approved	Approved
10.16.19	Long-Term Outcomes of Upper Extremity (UE) Sarcoma Survivors Based Upon Local Control Measures	Becktel/Medical College of Wisconsin	Psychology SMN	10.25.19	Approved	Pending
12.23.19	Investigating Disparities in Adoption of Novel Chemotherapy Protocols: a Historical Example in Hodgkin's Lymphoma	Shoag/University of Miami	Epi/Biostats	01.09.20	Approved	Withdrawn
02.10.20	Association of Age of Menopause with Chronic Health Conditions in Survivors of Childhood Cancer	Ketterl/Seattle Children's	Epi/Biostats	02.24.20	Approved	Pending
02.25.20	Disparities in Cardiovascular Outcomes and Risk Factors Among Hodgkin's Lymphoma Survivors	Shoag/University of Miami	Epi/Biostats	02.26.20	Not Approved	_____
04.29.20	Predicting Chronic Conditions in Adult Female Survivors of Childhood Cancer (Ancillary Study)	Oeffinger/Duke University	Psychology Epi/Biostats	05.12.20	Approved	Approved

Date Received	Title	Author/ Institution	Secondary Working Group(s)	Date Investigator Notified	AOI Outcome	Concept to Publication Committee
05.18.20	Incidence and Outcomes of Joint Replacement Surgery in Survivors of Childhood Cancer	Cohen-Levy/University of Miami	Psychology	06.02.20	Approved	Approved
06.25.20	Estimating the Clinical Outcomes and Cost-Effectiveness of Preventive Medicines to Reduce Secondary Cancers and Cardiovascular Disease in Childhood Cancer Survivors ( <a href="#">Ancillary Study</a> )	Yeh/Boston Children's	SMN Psychology Epi/Biostats	07.06.20	Approved	Pending
07.31.20	BMI at Childhood Cancer Diagnosis as a Predictor for Subsequent Chronic Health Conditions	Turcotte/U of Minnesota	Epi/Biostats	08.11.20	Approved	Pending
02.17.21	Chronic Conditions in Pediatric Cancer Survivors Diagnosed During Infancy (<1 year old) Compared to Similarly Treated Survivors Diagnosed at an Older Age (1-9 years old)	Goldsby/UCSF	SMN	03.01.21	Approved	Pending
04.12.21	Association of Radiotherapy Pelvic Dose and Female Sexual Dysfunction Risk in Long-Term Survivors of Childhood Cancer	Marshall/Mt. Sinai	Psychology	04.22.21	Approved	Pending
05.12.21	Long-Term Functional, Surgical, and Socioeconomic Outcomes of Local Control (radiotherapy, amputation, or limb salvage/reconstructive options) in Patients with Primary Bone Sarcomas in the Modern Era of Orthopedic Oncology	Ramsey/Mass General	Psychology	05.21.21	Approved	Pending
05.14.21	Adverse Childhood Experiences (ACEs) and Potential Mitigating Factors in Adult Survivors of Childhood Cancer ( <a href="#">Ancillary Study</a> )	Schwartz/University of Chicago	Psychology Cancer Control	05.24.21	Approved	Pending
06.28.21	Endocrine Late Effects in Survivors of Childhood Brain Tumors: A Report from the Childhood Cancer Survivor Study	Ronsley/Nationwide		07.08.21	Approved	Pending
06.28.21	Trajectory of Cardiovascular Risk Factors and Disease and Physical Activity in Adult Survivors of Adolescent and Young Adult Cancers Over Time	Hoover/UNC Chapel Hill	Cancer Control	07.08.21	Approved	Pending
08.27.21	Health Outcomes in Older Survivors of Childhood Cancer	Bhandari/City of Hope	SMN Psychology Cancer Control	09.07.21	Approved	Approved
11.19.21	Long-term functional, surgical, and socioeconomic outcomes of local control procedures in upper extremity sarcomas	Ramsey/Univ. Texas Rio Grande	SMN Psychology	11.29.21	Approved	Pending
<b>EPIDEMIOLOGY / BIOSTATISTICS</b>						
04.21.08	Conditional Survival in Pediatric and Adolescent Malignancies	Wasilewski-Masker/Emory/CHOA		06.10.08	Approved	Approved
04.21.08	Analysis of Late Mortality by Treatment Era: Brief Report	Armstrong/SJCRH		06.10.08	Approved	Not Approved
06.19.08	Cardiac Mortality	Armstrong/SJCRH		07.16.08	Approved	Approved
09.23.08	Assessing Bias Associated with Missing Data from the Childhood Cancer Survivor Study	Huang/SJCRH		10.14.08	Approved	Withdrawn
02.12.09	Predicting Late Effects of Individual Cancer Survivors: A Pilot Methodological Study ( <a href="#">Ancillary Study</a> )	Yasui/Edmonton Alberta		03.16.09	Approved	Approved
05.12.09	Impact of Health Behaviors and Health Perceptions on Subsequent Mortality in Childhood Cancer Survivors ( <a href="#">Ancillary Study</a> )	Cox/SJCRH		05.28.09	Approved	Approved
05.26.09	Cost Effectiveness of Cardiac Guideline for Survivors of Pediatric Cancers	Wong/City of Hope		06.10.09	Approved	Approved

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10.07.09	Computational Dose Reconstruction for Breast Cancer Patients after Hodgkin Lymphoma: Dose Comparison and Sensitivity Study	Lee/NCI	SMN	11.05.09	Not Approved	_____
11.16.09	Congenital Heart Disease	Gruber/U. of Michigan	Genetics	12.22.09	Approved	Not Approved
11.19.10	Exercise and Prevention of Late Cardiac Outcomes After Anthracyclines	Ryerson/Emory	Chronic Disease Cancer Control	12.10.10	Approved	Approved
06.18.10	Long-term Outcomes in Survivors of Retinoblastoma (The New York Cohort): A Comparison of Survivors Versus Non-Cancer Controls	Dunkel/MSKCC		07.01.10	Approved	Approved
10.27.10	Prediction of Risk of Serious Health Conditions	Salz/MSKCC		11.10.10	Approved	Withdrawn
05.16.11	Cost Effectiveness of COG Breast Cancer Screening Guidelines for Female Survivors of Pediatric Cancers	Wong/City of Hope	SMN Cancer Control	06.02.11	Approved	Approved
06.13.11	Predictors of Healthy Aging	Ness/SJCRH	SMN/ Chronic Disease Genetics Psychology Cancer Control	07.13.11	Approved	Withdrawn
09.08.11	Statistical Analysis of a Mixture of Recurrent Event and Panel Count data	Zhu/SJCRH		09.23.11	Approved	Approved
10.06.11	Estimating Long-Term Risks in Children Newly Diagnosed With ALL Based on Survivor Clusters in the CCSS Cohort	Essig/University of Bern	Cancer Control Chronic Disease SMN	11.07.11	Approved	Approved
05.15.12	Predicting the Risk of SMN Among Childhood Cancer Survivors With NMSC as a Second Malignancy	Ojha/SJCRH	SMN	06.13.12	Withdrawn	_____
07.16.12	Access to Health Information Technology and Health Information Seeking in Adult Survivors of Childhood Cancer	Mertens/SJCRH	Cancer Control	08.28.12	Approved	Approved
12.12.12	Estimation of Risk Ratios in the Presence of Statistical Interactions	Satagopan/MSKCC		01.10.13	Approved	Approved
01.14.14	Risk of Cardiovascular Disease and Second Malignancies Attributable to Therapeutic Exposures by Treatment Era	Bhatia/UAB	SMN Chronic Disease	02.11.14	Approved	Withdrawn
01.14.14	Association Between Key Therapeutic Exposures And Outcomes - Gaps in Knowledge	Bhatia/UAB	SMN Chronic Disease	02.11.14	Approved	Withdrawn
01.20.14	Late Mortality by Treatment Era	Armstrong/SJCRH		02.11.14	Approved	Approved
04.02.14	Differences in Participant Characteristics and Changes in Treatment Characteristics from the Original to the Expanded Cohorts	Mertens/Emory		04.23.14	Approved	Approved
04.05.14	Tiled Study Design: Using Temporal Overlap as a Method to Extend Longitudinal Follow-Up Among Carefully Selected Time-Limited Cohorts	Chow/University of Washington	Chronic Disease	04.23.14	Approved	Approved
05.19.14	Use of an Incentive to Increase Biologic Sample (Oragene) Return Rate	McDonald/SJCRH		06.20.14	Approved	Approved
08.15.14	Differences in Long-Term Outcomes by Race/Ethnicity in Childhood Cancer Survivors	Liu/University of Alberta		09.04.14	Approved	Approved
11.11.14	Relationships of Persistent Symptoms with Relapse, SMN, and Mortality	Huang/SJCRH	SMN, Chronic Disease, Psychology	12.01.14	Approved	Withdrawn

Date Received	Title	Author/ Institution	Secondary Working Group(s)	Date Investigator Notified	AOI Outcome	Concept to Publication Committee
04.02.15	Dosimetric Uncertainty in Radiation Dose Reconstruction Method used for CCSS	Howell/MD Anderson		04.26.15	Approved	Approved
05.29.15	Clinical Utilities of Various Prediction Performance Measures	Yuan/University of Alberta		06.18.15	Approved	Approved
07.17.15	Burden of Morbidity after Basal Cell Carcinoma	Bhatia/UAB	Chronic Disease, Genetics, SMN	08.12.15	Approved	Approved
10.04.15	Statistical Analysis for Various Outcome Measures in Recurrent Event Studies - Ancillary	Zhu/SJCRH		10.15.15	Approved	Approved
01.19.16	Individual Prediction of Premature Ovarian Insufficiency (Ancillary Study)	Yuan/University of Alberta		02.05.16	Approved	Approved
10.06.16	Trends in Life Expectancy and Quality-Adjusted Life Expectancy among Childhood Cancer Survivors	Yeh/Boston Children's Hospital	Chronic Disease Psychology	10.28.16	Approved	Approved
10.18.16	Cost-effective Cardiomyopathy Surveillance Strategies in Childhood Cancer Survivors	Ehrhardt/SJCRH	Chronic Disease Cancer Control	11.14.16	Approved	Approved
01.05.17	Statistical Methods for GWAS Analysis of Recurrent-event Data in Cancer Study (Ancillary Study)	Zhu/University of Texas Health Science Center	Genetics	01.23.17	Approved	Withdrawn
06.28.17	A Personalized Cumulative Burden Prediction Tool for Second Neoplasms	Bhakta/SJCRH	SMN	07.31.17	Approved	Pending
11.30.17	Personalized Medicine Approach to Define the Association between Exercise and Cardiovascular Risk Profile	Scott/MSKCC	Chronic Disease Cancer Control		On Hold	
10.12.18	Effect of Hypothetical Lifestyle Interventions on Major Cardiovascular Events among Childhood Cancer Survivors	Madenci/Harvard University	Cancer Control Chronic Disease	11.07.18	Approved	Withdrawn
12.19.18	Statistical Analysis for Genome-Wide Data with Interval-censored Outcomes in Oral Health Studies (Ancillary Study)	Zhu/University of Texas Health Science Center	Chronic Disease	01.04.19	Approved	Pending
01.15.19	Estimating the Global Burden of Childhood Cancer in the Global Burden of Disease 2019 Study	Force/SJCRH	Chronic Disease Psychology	01.25.19	Approved	Pending
01.16.19	Factors Contributing to Survival Following Second Malignant Neoplasms Diagnosed in Long-term Survivors of Childhood Cancer	Brown/Baylor College of Medicine	SMN, Chronic Disease Psychology, Cancer Control	01.25.19	Approved	Withdrawn
04.29.19	Association of Individual and Neighborhood characteristics and adverse outcomes in childhood cancer survivors	Howell/SJCRH	Chronic Disease	05.10.19	Approved	Approved
04.29.19	Socioeconomic and Rural/Urban Differences in Adverse Outcomes among Childhood Cancer Survivors	Winestone/UCSF		05.10.19	Approved	Approved
06.24.19	Overall and Cardiac-Specific Survival Following Serious Cardiovascular Events in Childhood Cancer Survivors	Chow/Univ of Washington, FHCRC	Chronic Disease	07.18.19	Approved	Approved
11.15.19	Risk Score Algorithm to Predict Individual Risk of Future Serious Late Cardiovascular Disease that includes Dose and Dose Volume Metrics for the Whole Heart and Heart Substructures (Ancillary Study)	Shrestha/MD Anderson	Chronic Disease	12.23.19	Approved	Approved
12.17.19	Impact of Aging and Modifiable Risk Factors on Late-Mortality Among Survivors of Childhood Cancer	Dixon/SJCRH	Chronic Disease Psychology	12.31.19	Approved	Approved
09.09.20	Integration of Dental Conditions in Public Genetic Compendiums with Data Infrastructure Development and In Vitro Follow-up (Ancillary Study)	Zhu/University of TX HSC	Chronic Disease Genetics	09.21.20	Approved	Pending

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09.10.20	A New Perspective of the Factor Structure of the Brief Symptom Inventory 18 (BSI-18) and its Application Among Adult Survivors of Childhood Cancer	Mai/SJCRH	Psychology	09.21.20	Approved	Pending
09.16.20	Analytic Solutions to Data Problems Due to Recall Nature and Missing Age at Late Effects of CCSS	Salehabadi/SJCRH	Chronic Disease	09.28.20	Approved	Pending
08.23.21	Prediction of Mortality Using Symptom Burden among Adult Survivors of Childhood Cancer	Huang/SJCRH	Psychology	09.03.21	Approved	Approved
03.19.22	Estimation of and Identification of Significant Risk Factors Related to Late Effects of Childhood Cancer Treatments	Sun/U. of Missouri	Chronic Disease SMN	03.31.22	Approved	Pending
<b>GENETICS</b>						
-	GWAS of SMNs after Hodgkin Lymphoma	Onel/U. of Chicago	SMN	-	Approved	Approved
-	Genetic Epidemiology of Basal Cell Carcinoma in Childhood Cancer Survivors	Davies/Cincinnati	SMN	-	Approved	Approved
-	Susceptibility Genes for RT-induced Breast Cancer after Hodgkin Lymphoma	Van Leeuwen/Netherlands Cancer Institute	SMN		Approved	Approved
-	Radiation-related Thyroid Cancer	Nikiforov/U. of Pittsburgh	SMN		Approved	Approved
05.02.08	Characterization of Genomic Alterations in Radiation-Related Breast Cancer Using Array CGH (Comparative Genomic Hybridization)	Yang/NCI	SMN	06.02.08	Approved	Approved
05.27.08	Incidence of Familial Hodgkin Lymphoma	Metzger/SJCRH		06.10.08	Approved	Hold
06.05.08	Genetic Predictors of Impaired and Enhanced Neurocognitive and Psychological Functioning among Survivors of Childhood Leukemia and Lymphoma	Kadan-Lottick/Yale University	Psychology	03.16.09	Approved	Withdrawn
06.25.08	Genetic Polymorphisms and Metabolic Outcomes in Childhood Leukemia Survivors ( <a href="#">Ancillary Study</a> )	Kamdar/Texas Children's Hospital	Chronic Disease	08.11.08	Approved	_____
09.25.08	Late Effects in Childhood Cancer Survivors and Vitamin D Polymorphisms	Ocku/Baylor	SMN	10.14.08	Approved	Not Approved
11.13.08	Long-Term Morbidity in Childhood Cancer Survivors with Down Syndrome	Raber/UCSF	Chronic Disease	12.02.08	Approved	Approved
12.02.08	Evaluation of SNPs in the EWS Breakpoint Region in People with and without Ewing Sarcoma ( <a href="#">Ancillary Study</a> )	DuBois/UCSF		12.18.08	Approved	Approved
06.15.09	Telomere Length and Risk for Second Malignancy in Pediatric Cancer Survivors	Gramatges/Baylor	SMN	07.10.09	Approved	Approved
10.15.09	Polymorphisms of Cardiomyocyte Genes in CCSS Participants with Congestive Heart Failure or Subclinical Left Ventricular Dysfunction After Treatment with Anthracyclines	Green/SJCRH		11.05.09	Approved	Withdrawn
07.28.10	Detecting Germ Cell Mutation by Family DNA Sequencing	Mulvihill/OU				Withdrawn
08.21.10	Genetic Alterations in Second Malignant Neoplasms	Nakamura/UCSF	SMN	11.10.10	Approved	Approved
12.15.10	Multiple SMNs & Genomic Instability/DNA Repair	Bhatia/UAB	Epi/Biostats SMN	02.03.11	Approved	Pending
02.09.11	Molecular Variation Between Spontaneous Breast Cancers and Breast Cancers Induced by Radiation in Survivors of Hodgkin's Lymphoma	Pelloski/Ohio State	SMN	03.09.11	Approved	Withdrawn

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04.04.11	Genome-Wide Association Study of Subsequent Malignancies	Morton/NCI	SMN Epi/Biostats	04.21.11	Approved	Approved
04.14.11	Identification of Susceptibility Loci in Radiation-Induced Breast Cancer by Exome and CNV Analysis	Hodgson/Princess Margaret Hospital	SMN	05.03.11	Approved	Withdrawn
05.03.11	Genetic Susceptibility to Anthracycline-Related CHF	Bhatia/UAB	Chronic Disease Epi/Biostats	06.02.11	Approved	Approved
07.08.11	Genetic Susceptibilities to Second Cancers	Onel/University of Chicago	SMN	08.16.11	Approved	Withdrawn
07.08.11	PRDM1 and Somatic Mutations in SMNs after Hodgkin Lymphoma	Onel/University of Chicago	SMN	08.16.11	Approved	Withdrawn
10.05.11	Host and Demographic Factors Associated with Solid Second Malignant Neoplasms in Un-Irradiated Childhood Cancer Survivors	Henderson/University of Chicago	SMN	11.07.11	Withdrawn	_____
10.18.12	Epigenomic Profiling of Metabolic Outcomes in Childhood Leukemia Survivors	Lupo/Baylor	Cancer Control	11.20.12	Approved	Approved
09.26.13	Evaluation of the Intrinsic Molecular Profiles of Radiation-Preceded Breast Cancer	Barcellos-Hoff/NYU	SMN	10.14.13	Approved	Withdrawn
03.25.14	Shortened Telomere Length and Defects in Telomere Maintenance Associated with Thyroid SMNs in Childhood Cancer Survivors (Ancillary Study)	Gramatges/Baylor	SMN, Epi/Biostats	04.14.14	Approved	Approved
04.01.14	Neurofibromatosis and Second Neoplasms (Ancillary Study)	Bhatia/UAB		04.11.14	Approved	Approved
06.20.14	Improving Delivery of Genetic Services to High Risk Childhood Cancer Survivors (Ancillary Study)	Henderson/ University of Chicago	Cancer Control	10.28.14	Approved	Pending
02.19.15	Exome Sequencing to Discover Genetic Variants that Predispose to the Development of Subsequent Neoplasms	Morton/NCI	SMN, Epi/Biostats	04.26.15	Approved	Approved
05.01.15	Validation of Interactome-based Biomarkers of Inherited Susceptibility to Radiation Induced Carcinogenesis (Ancillary Study)	Amundson/Columbia University	SMN	05.11.15	Approved	Withdrawn
01.25.16	Predicting Pulmonary Late Effects in Childhood Cancer Survivors	Agrusa/Baylor College of Medicine	Chronic Disease Epi/Biostats	02.08.16	Withdrawn	_____
03.14.16	Molecular Characterization of Therapy-Related Pediatric High-Grade Gliomas	Lucas/SJCRH	SMN	03.28.16	Approved	Pending
07.11.16	Late Effects Prediction Using Clinical Phenotypes and Whole Genome Sequencing (Ancillary Study)	Yasui/SJCRH	Chronic Disease SMN Epi/Biostats	07.26.16	Approved	Pending
04.21.17	Germline Genomics to Identify Genetic Variants that Predispose Childhood Cancer Survivors Diagnosed During 1987-1999 to the Development of Subsequent Neoplasms	Morton/NCI	SMN Epi/Biostats	05.09.17	Approved	_____
05.24.17	Biological Mechanisms of Accelerated Aging Evidenced as Frailty in Survivors of Childhood Leukemia	Gramatges/Baylor	Chronic Disease	06.07.17	Approved	Pending
06.01.17	Myocardial Infarction GWAS (via GWAS RFP process)	Morrison/Univ. Texas Health Science Center	Chronic Disease Epi/Biostats	06.12.17	Approved	Approved
06.01.17	Stroke GWAS (via GWAS RFP process)	Morrison and Bowers/UTHSC and UT Southwestern	Chronic Disease Epi/Biostats	06.12.17	Approved	Approved

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06.01.17	Diabetes GWAS (via GWAS RFP process)	Lupo/Baylor College of Medicine	Chronic Disease	06.12.17	Approved	Approved
06.01.17	GWAS of Thyroid Nodules and Intestinal Polyps	Shultz/Children's Hospital of Minnesota	Chronic Disease	06.12.17	Approved	Pending
06.01.17	Cardiomyopathy Simulation Model Utilizing GWAS Data (Ancillary Study)	Yeh/Boston Children's; Harvard	Chronic Disease	06.12.17	Approved	Pending
06.03.17	Late Effects Prediction Using Whole Genome Sequencing (Ancillary Study)	Yasui/SJCRH	Epi/Biostats SMN; Chronic Disease; Psychology	07.25.17	Approved	Pending
08.08.17	Immune Dysregulation and Premature Aging in Childhood Cancer Survivors (Ancillary Study)	Cozen/USC	Chronic Disease Psychology	09.01.17	Approved	Pending
10.01.17	Tinnitus GWAS (via GWAS RFP Process)	Dolan/ University of Chicago	Chronic Disease	10.16.17	Approved	Approved
10.01.17	Intestinal Obstruction GWAS (via GWAS RFP Process)	Madenci/Boston Children's Hospital	Chronic Disease	11.12.17	Approved	Approved
10.01.17	Genetic Susceptibility to Anthracycline-Related Congestive Heart Failure (via GWAS RFP Process)	Bhatia/UAB	Chronic Disease	10.16.17	Approved	Approved
02.01.18	iPSC-Cardiomyocyte and RNAseq Identified Genes and Cardiomyopathy (via GWAS RFP Process)	Reyes/MD Anderson	Chronic Disease	02.23.18	Approved	Approved
09.18.18	Genetic Risk Prediction Profiles for Fracture among Childhood Cancer Survivors	Im/University of Alberta	Chronic Disease Epi/Biostats	09.29.18	Approved	Approved
09.24.18	Developing a Clinical and Genetic Risk Prediction Model for Diabetes Mellitus among Survivors of Childhood Cancer	Lupo/Baylor College of Medicine	Chronic Disease Epi/Biostats	09.29.18	Approved	Approved
09.26.18	Genome Wide Association Study of Modulators of Pregnancy in Long Term Survivors of Pediatric Cancer	Rotz/Cleveland Clinic	Chronic Disease	10.25.18	Approved	Approved
09.28.18	Genetic Susceptibility to Neurocognitive Impairment Secondary to Childhood Cancer Treatment	Scheurer/Baylor College of Medicine	Psychology	10.25.18	Approved	Approved
01.08.19	Genetic Determinants of Posttraumatic Stress Disorder in Pediatric Cancer Survivors	Recklitis/Dana Farber Cancer Institute	Psychology (Co-Primary) Epi/Biostats	01.18.19	Approved	Approved
01.15.19	GWAS of Cisplatin Induced and Non-Cisplatin Induced Hearing Loss	Dolan/University of Chicago	Epi/Biostats	01.25.19	Approved	Approved
01.30.19	GWAS of Hypertension in Childhood Cancer Survivors	Pierzynski/SJCRH	Chronic Disease Epi/Biostats	02.08.19	Approved	Approved
03.07.19	Genetic Susceptibility to Certain Subsequent Neoplasms after Radiotherapy for Childhood Cancer	Morton/NCI	SMN	03.22.19	Approved	Pending
03.28.19	Whole-Genome Sequencing Analysis of Germline Mutations in DNA Repair Genes	Wang/SJCRH	SMN Epi/Biostats	04.10.19	Approved	Withdrawn

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05.02.19	A Genome-Wide Association Study for Frailty in Adult Survivors of Childhood Cancer	Gramatges/Baylor College of Medicine	Chronic Disease Epi/Biostats	05.13.19	Approved	Approved
07.18.19	Genetic Association Study of Cardiac Toxicity Following Chest Radiotherapy	Kerns/University of Rochester	Chronic Disease Epi/Biostats	08.05.19	Approved	Approved
10.08.19	Long-Term Cost-Effectiveness of the Identification of Cancer Predisposition Syndromes in Survivors of Pediatric Leukemia, Brain Tumors and Bone/Soft-Tissue Sarcomas	Goudie/McGill University	Cancer Control Psychology SMN	10.21.19	Approved	Approved
10.16.19	Clinical and Genetic Profiling of Cataract Risk among Long-Term Childhood Cancer Survivors	Sharafeldin/UAB	Chronic Disease Epi/Biostats	10.25.19	Approved	Pending
01.13.20	Genome-wide association to study dyslipidemia in adult survivors of childhood cancer (GWAS RFP response)	Pluimakers/Princess Maxima	Genetics	05.28.20	Approved	Approved
01.23.20	Robust Genetic Predictors of Secondary Cancer Risks (Ancillary Study)	Ostrer/Einstein College of Medicine	SMN	02.07.20	Approved	Pending
04.14.20	Biological mechanisms of early-onset cancer risk	Schumacher/Case Western Reserve	Epi/Biostats	04.16.20	Not Approved	_____
04.15.20	Investigating Genetic Alterations in Radiation-induced Secondary Malignancies (Ancillary Study)	Nakamura/UCSF	SMN	04.29.20	Approved	Pending
07.21.20	Genome-wide polygenic risk score prediction of coronary artery disease in survivors of childhood cancer	Sapkota/SJCRH	Chronic Disease Epi/Biostats	08.03.20	Withdrawn	_____
09.28.20	Risk Prediction of Menarche and Menopause-related Phenotypes in Childhood Cancer Survivors Using Polygenic Risk Scores and Clinical Predictors	Yu/University of Alberta	Chronic Disease Cancer Control Epi/Biostats	10.10.20	Approved	Approved
02.01.21	Investigation of Germline Predisposition to Pediatric Treatment-Induced High-Grade Glioma (TIHGG) (Ancillary Study)	Green/University of Colorado	SMN Epi/Biostats	02.11.21	Approved	Pending
04.21.21	The Genomic Landscape of Second Malignant Neoplasms from the Childhood Cancer Survivor Study (Ancillary Study)	Brady/SJCRH	SMN Epi/Biostats	05.03.21	Approved	Approved
05.17.21	Germline Determinants of Pediatric Tumor Immune Microenvironment Effects on Risk, Prognosis and Treatment Response	Carter/UC San Diego Pagadala/UC San Diego		05.27.21	Approved	Not Approved
10.08.21	Genetic Modification of Chemotherapy-Associated Subsequent Malignant Neoplasms	Watt/MSK	SMN	10.18.21	Approved	Pending
11.12.21	Radiotherapy-related Somatic Changes in Subsequent Neoplasms Occurring after Childhood Cancer	Morton/NCI	SMN Epi/Biostats	11.22.21	Not Approved	_____
03.17.22	Whole-genome sequencing of the youngest osteosarcoma cases using our current dataset plus in-house CCSS cases	Mirabello/NCI	SMN Epi/Biostats	03.31.22	Approved	Pending
<b>PSYCHOLOGY</b>						
05.05.08	Psychosexual Adjustment in Long-Term Female Survivors of Childhood Cancer	Carpentier/Indiana University School of Medicine			Withdrawn	_____
06.05.08	Predictors of Future QOL in Adolescent Survivors of Childhood Cancer	Nolan/SJCRH	Chronic Disease	07.11.08	Approved	Approved

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06.07.08	Quality of Life Associated with Fertility Status in Childhood Cancer Survivors	Warwick/Medical College of Wisconsin	Chronic Disease	07.11.08	Withdrawn	_____
06.09.08	QOL in Long-Term Survivors	Schapmire/University of Louisville		07.11.08	Withdrawn	_____
06.11.08	Health Behaviors and Chronic Disease	Hudson/SJCRH			Withdrawn	_____
07.10.08	The Psychological and General Health Status Impact of Late Sibling Death: A Report from the Childhood Cancer Survivor Study	Raber/UCSF Children's Hospital		08.11.08	Withdrawn	_____
08.25.08	Impact of Chronic Disease on Neurocognitive and Psychosocial Functions	Krull/ SJCRH	Chronic Disease	09.19.08	Approved	Approved
10.10.08	An Examination of the Relationship Between Fatigue/Sleep Disturbance and Neurocognitive Functioning in Adult Survivors of Childhood Cancer	Clanton/Baylor		11.12.08	Approved	Approved
11.24.08	Outcome after Stroke among Long-Term Survivors of Childhood Leukemia and Brain Tumors	Fullerton/UCSF	Chronic Disease	12.18.08	Approved	Approved
01.26.09	Localization of CNS Directed Radiotherapy and Neurocognitive, Psychological and Quality of Life Outcomes in Survivors of CNS Tumors	Armstrong/SJCRH		02.12.09	Approved	Approved
01.27.09	Chronic Pain and Psychosexual Function in Adult Survivors of Childhood Cancer	Randolph-Frye/SJCRH		02.12.09	Withdrawn	_____
05.05.09	Dermatological Issues in Adult Survivors of Childhood Cancer	Kinahan/Northwestern	Cancer Control	05.28.09	Approved	Approved
06.16.09	Predictors of Psychoactive Medication Use	Brinkman/SJCRH	Epi/Biostats	07.10.09	Approved	Approved
08.12.09	Causal Associations Between Psychological and Quality of Life Outcomes in CCSS	Krull/SJCRH		09.09.09	Approved	Withdrawn
08.15.09	Health Related Quality of Life in Adult Survivors of Relapsed ALL	Essig/University of Bern		09.09.09	Withdrawn	_____
01.18.10	Psychological and Neurocognitive Outcomes in Those Diagnosed with Cancer as Adolescent and Young Adults in the CCSS	Prasad/Vanderbilt		02.12.10	Approved	Approved
09.29.10	Longitudinal Patterns of Late Effects in Adult Survivors of Childhood Brain Tumors	Hardie/Drexel	Epi/Biostats Chronic Disease	10.21.10	Approved	Approved
10.21.10	Longitudinal Psychological Distress	Brinkman/SJCRH		11.10.10	Approved	Approved
04.22.11	Sensory-motor Problems and Associated Functional Outcomes in Survivors of Childhood Central Nervous System (CNS) Tumors	Walsh/ Children's National Medical Center	Chronic Disease	05.03.11	Approved	Withdrawn
06.23.11	Physical Activity and Risky Behavior Patterns Among Teenage Survivors of Childhood Cancers	Devine/U. of Rochester	Cancer Control	07.13.11	Approved	Approved
07.23.11	Measurement Invariance in Health-Related Quality of Life Between Young Adult Survivors of Childhood Cancer and Their Siblings	Huang/ University of Florida	Epi/Biostats	08.16.11	Approved	Approved
01.19.12	Post-traumatic Stress Symptoms, Adherence to Screening Guidelines and Health-Related Behaviors in Adult Survivors of Childhood Cancer	Kimberg/SJCRH	Cancer Control		Withdrawn	Withdrawn
01.19.12	Health Related Locus of Control	Kimberg/SJCRH	Cancer Control	02.02.11	Approved	Approved

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03.27.12	Chronic Alcohol Consumption and Neurocognitive Function in Adult Survivors of Childhood Cancer	Brinkman/SJCRH	Cancer Control	04.26.12	Approved	Approved
04.25.12	Psychosocial and Physical Factors Influencing Fatigue in Survivors of Childhood Hodgkin Lymphoma	Crabtree/SJCRH	Epi/Biostats	05.15.12	Approved	Approved
05.07.12	Identifying Longitudinal Predictors of Quality of Life in Adolescent Survivors of Pediatric Cancer	Stern/VCU		06.13.12	Approved	Approved
05.08.12	Fatigue Reported by Childhood Cancer Survivors and Its Relationship to Health Outcomes	Lai/Northwestern University	Epi/Biostats	06.13.12	Approved	Withdrawn
10.03.12	Locus of Control and Survivorship Care	Mays/Georgetown		11.20.12	Approved	Withdrawn
10.06.12	Psychosocial Outcomes of Pediatric Cancer Survivors	Nellen/University of Virginia		10.26.12	Withdrawn	_____
10.12.12	The Impact of Vision Loss Among Childhood Survivors of Central Nervous System Astroglial Tumors	De Blank/Rainbow Babies	Chronic Disease	10.26.12	Approved	Approved
10.16.12	A Pilot Study to Investigate Stimulants to Improve Neurocognitive Impairment in Adult Survivors of Childhood Cancer	Balsamo/Yale		10.26.12	Approved	Withdrawn
10.17.12	Posttraumatic Stress and Growth in Survivors of Recurrent Pediatric Blood Cancers	Hoffman/University of Iowa		10.26.12	Withdrawn	_____
10.24.12	Neurocognitive and Psychosocial Difficulties in Survivors of Rhabdomyosarcomas	Schapiro/Washington University		11.20.12	Approved	Approved
10.29.12	Sleep and Fatigue in Survivors of Pediatric CNS Tumors	Manley/Dana-Farber	Chronic Disease	11.20.12	Approved	Withdrawn
10.30.12	Eating Disorder Behaviors in Survivors of Childhood Cancer	Zhang/Tufts University		11.20.12	Approved	Withdrawn
05.01.13	Social and Behavioral Phenotypes of Adolescent Survivors of Childhood Cancer	Brinkman/SCJRH		05.30.13	Approved	Approved
05.08.13	Exploring Latent Clusters of Survivors Using the BSI-18	D'Agostino/Princess Margaret Cancer Centre		05.30.13	Approved	Approved
08.19.13	Mental Health Care Service Availability and Utilization Among Childhood Cancer Survivors	Perez/Mass General	Cancer Control	09.26.13	Approved	Approved
08.23.13	The Impact of the Sibling Sociodemographic and Health Factors on Psychological Outcomes of Childhood Cancer Survivors	Buchbinder/CHOC		09.26.13	Approved	Withdrawn
11.06.13	Impact of Social Networks on Psychological and Health-Related Quality of Life Outcomes on Young Adult Survivors of Childhood Cancer	Galligan/Univ. of Florida		12.17.13	Withdrawn	_____
11.14.13	Neuropsychological Outcomes in Long Term Survivors of Stem Cell Transplant	Hiniker/Stanford		12.17.13	Not Approved	_____
01.20.14	Cognitive, Behavioral and Learning Problems in Survivors of Childhood ALL	Jacola/SJCRH		02.11.14	Approved	Approved
01.29.14	Adult Neurobehavioral Late Effects of Pediatric Low-Grade Brain Tumors	Ris/Baylor	Epi/Biostats	02.11.14	Approved	Approved
03.14.14	Antecedents and Consequences of Personal and Interpersonal Strengths in Young Adult Survivors	Henrich/Georgia State University		03.30.14	Approved	Approved
04.03.14	Vascular Effects of Cranial Radiation Therapy (Ancillary Study)	Mueller/UCSF	Chronic Disease Epi/Biostats	04.22.14	Approved	Withdrawn

Date Received	Title	Author/ Institution	Secondary Working Group(s)	Date Investigator Notified	AOI Outcome	Concept to Publication Committee
06.30.14	Psychological Concerns Among Siblings of Childhood Cancer Survivors	Buchbinder/CHOC		08.29.14	Approved	Approved
10.06.14	Effects of Administration Modes on Patient-Reported Outcomes Assessment in CCSS	Huang/SJCRH	Epi/Biostats	10.28.14	Approved	Approved
03.05.14	Neurocognitive Function in Survivors of Osteosarcoma	Kadan-Lottick/Yale		04.26.15	Approved	Approved
05.25.15	Psychosocial Outcomes in Adolescent Survivors of Wilms Tumor	Foster/St. Louis Children's Hospital	Chronic Disease	06.18.15	Approved	Approved
08.07.15	Prevalence and Predictors of Cognitive and Behavioral Problems in Adolescent Survivors of CNS Tumors	Kunin-Batson/University of Minn.	Chronic Disease	08.30.15	Approved	Withdrawn
08.12.15	Cognitive and Behavioral Outcomes in Adolescent Survivors of Neuroblastoma	Zheng/Yale		08.30.15	Approved	Approved
08.19.15	Social Function in Adolescent Survivors of Pediatric Brain Tumors	Schulte/Alberta Children's Hosp.		09.08.15	Approved	Approved
09.09.15	Loneliness Predictors and Outcomes in Young Adult Childhood Cancer Survivors	Fayad/University at Buffalo	Cancer Control	09.21.15	Approved	Approved
09.09.15	Sleep Behaviors and Patterns and their Relationship to Health and Mental Health Outcomes in Adult Survivors	Daniel/CHOP	Chronic Disease SMN	09.21.15	Approved	Approved
09.11.15	Psychological Distress, Neurologic Morbidity and Functional Independence Among Survivors With CNS-Directed Therapy	Vuotto/SJCRH	Chronic Disease	09.28.15	Approved	Approved
09.15.15	Effect of NF1 Status on Late Outcomes in Adult Survivors of Childhood Cancer	De Blank/University Hospitals Rainbow Babies	Epi/Biostats Chronic Disease SMN	09.28.15	Approved	Approved
11.11.15	Prevalence and Patterns of Prescription Psychoactive Medication Use in Adolescent Survivors of Childhood Cancer	Cheung/SJCRH		11.25.15	Approved	Approved
11.26.15	Longitudinal Patterns of Psychological Distress and Health Behaviors in Adolescents	Shin/UNC Greensboro	Cancer Control	11.30.15	Withdrawn	
12.01.15	Psychological and Behavioral Outcomes in Pediatric AML Survivors: BMT versus Chemotherapy-only	Stefanski/Cincinnati Children's Hospital Medical Center		12.14.15	Approved	Approved
02.10.16	eHealth Intervention for Insomnia in ALL Survivors ( <a href="#">Ancillary Study</a> )	Ruble/Johns Hopkins	Cancer Control	02.22.16	Approved	Pending
02.10.16	Adolescent Risk Factors and Behavior Patterns and Future Alcohol and Psychoactive Medication Use in Young Adult Survivors	Ruiz/Harbor-UCLA Medical Center		02.22.16	Approved	Withdrawn
05.05.16	Posttraumatic Stress as a Unique Contributor to Health Outcomes and Healthcare Utilization in Adult Survivors of Childhood Cancer	Van Sickle/Florida Institute of Technology	Cancer Control	05.20.16	Approved	Approved
05.09.16	Special Education Services, Educational Attainment, and Chronic Health Conditions Among Long-Term Survivors	Bashore/Cook Children's Med. Center	Chronic Disease	05.20.16	Approved	Approved
05.16.16	Long Term Psychosocial Outcomes in Pediatric Low-Grade Glioma Survivors	Ris/Texas Children's Hospital	Epi/Biostats	06.01.16	Approved	Approved
08.26.16	The Impact of Preexisting Genetic or Congenital Medical Conditions on Long-Term Psychosocial and Psychological Outcomes	Jacola/SJCRH	Chronic Disease Genetics	09.07.16	Approved	Not Approved
09.30.16	Trends in Utility-based Health-related Quality of Life Among Childhood Cancer Survivors	Yeh/Boston Children's Hospital	Chronic Disease	10.28.16	Approved	Approved

Date Received	Title	Author/ Institution	Secondary Working Group(s)	Date Investigator Notified	AOI Outcome	Concept to Publication Committee
10.27.16	Cognitive Aging in Adult Survivors of Childhood Cancer	Krull/SJCRH Phillips/SJCRH	Chronic Disease Epidemiology/Biostats Cancer Control	11.15.16	Approved	Approved
11.15.16	Physical Activity as a Predictor of Neurocognitive Outcomes in Adult Survivors of Childhood Cancers	Edelstein/Princess Margaret Cancer Center	Chronic Disease Cancer Control	11.30.16	Approved	Approved
12.21.16	Longitudinal Changes in Functional Independence in Aging Adult Survivors of Pediatric Brain Tumors	Lange/University of MN Brinkman/SJCRH	Chronic Disease	01.12.17	Approved	Approved
01.09.17	Suicide, Homicide and Accidental Causes of Death in Childhood Cancer Survivors	Qaddoumi/SJCRH	Epi/Biostats	01.24.17	Approved	Approved
02.01.17	Determinants of Longitudinal Health-Related Quality of Life Change in Adult Survivors of Childhood Cancer ( <a href="#">Ancillary Study</a> )	Huang/SJCRH	Chronic Disease Cancer Control	02.17.17	Approved	Approved
02.17.17	Effects of Radiation and Changes by Treatment Era on Neurocognitive Impairment, Social Attainment and Quality of Life in Adult Survivors of Pediatric Brain Tumors	Brinkman/SJCRH		02.28.17	Approved	Approved
02.28.17	Self-Reported Neuropsychological Outcomes in Adult Survivors of Neuroblastoma	Hesko/Univ. of Chicago	Chronic Disease	04.04.17	Approved	Approved
03.08.17	Daily and Chronic Experiences of Pain in Adult Survivors of Childhood Cancer	Alberts/SJCRH	Cancer Control	04.04.17	Approved	Approved
03.10.17	Racial/Ethnic Differences in Neurocognitive and Psychological Function in Adult Survivors of Childhood Cancers	Dixon/SJCRH	Epi/Biostats	04.04.17	Approved	Approved
07.13.17	Loss of Sight, Hearing and Peripheral Sensation and its Effect on HRQOL and Social Functioning in Childhood Cancer Survivors Across Three Decades of Diagnosis	Prasad/LSU	Chronic Disease	08.08.17	Approved	Pending
08.28.17	Mental Health Outcomes in Survivors of Childhood ALL Treated with Chemotherapy-only Protocols by Era	Nannes/Duke University	Chronic Disease	09.16.17	Approved	Approved
09.09.17	Persistence of fatigue and associated factors in adult survivors of childhood cancer	Krull/St. Jude	Cancer Control	09.28.17	Approved	Pending
09.11.17	Neurocognitive outcomes in survivors of childhood acute lymphoblastic leukemia treated with chemotherapy only	Van der Plas/Sick Kids	Chronic Disease	09.28.17	Approved	Approved
10.11.17	Neurocognitive Functioning, Emotional and Quality of Life in Asian or Pacific Islander Survivors	Sato/Ochanomizu University Japan		10.19.17	Approved	Approved
12.19.17	Psychosocial and Neurocognitive Outcomes in Survivors of Hodgkin Lymphoma	Phillips/SJCRH Williams/SJCRH	Epi/Biostats	01.03.18	Approved	Approved
05.01.18	Childhood Surgery and Post-Traumatic Stress Disorder Symptoms Among Survivors of Childhood Cancer	Madenci/Boston Children's; Harvard	Epi/Biostats	05.15.18	Approved	Pending
05.01.18	Childhood Surgery and Chronic Pain among Adult Survivors of Childhood Cancer	Madenci/Boston Children's; Harvard	Epi/Biostats	05.15.18	Approved	Pending
08.28.18	Neighborhood Socioeconomic/Environmental Disadvantage and Psychosocial Outcomes in CCSS Survivors	Bai/Emory University	Cancer Control	09.07.18	Approved	Approved

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09.25.18	Temporal Changes in Employment Outcomes of Survivors of Childhood Cancer	Bhatt/SJCRH	Cancer Control (Co-Primary) Chronic Disease	09.29.18	Approved	Approved
10.24.18	Psychosomatic Profiles of Survivors of Childhood Cancer and their Siblings: Links to Health Behaviors and Health Care Utilization	Tillery/SJCRH	Cancer Control	11.07.18	Approved	Approved
01.08.19	Genetic Determinants of Posttraumatic Stress Disorder in Pediatric Cancer Survivors	Recklitis/Dana Farber Cancer Institute	Psychology (Co-Primary) Epi/Biostats	01.18.19	Approved	Approved
01.09.19	Does Sex Mediate the Relationship between Treatment Exposures and Functional Outcomes?	Peterson/Princess Margaret Cancer Center	Epi/Biostats Chronic Disease	01.18.19	Approved	Approved
06.20.19	Sleep in Long-term Cancer Survivors Relative to Siblings: Cross-sectional Comparison and Longitudinal Follow-up	Daniel/CHOP	Chronic Disease SMN	07.18.19	Approved	Approved
08.21.19	Perceptions of Risk for Sexual Dysfunction among Adult Male Survivors of Childhood Cancer	Sopfe/Univ of Colorado	Chronic Disease	09.06.19	Approved	Approved
12.17.19	Neurocognitive Outcomes in Survivors of Early Adolescent and Young Adult Cancer	Wang/Univ. of Chicago	Chronic Disease	12.31.19	Approved	Approved
02.21.20	Integrating Technological Approaches for Pain Management in Adult Survivors of Childhood Cancer (Ancillary Study)	Smith/Duke University	Cancer Control	03.06.20	Approved	Pending
06.11.20	Accelerated Aging as an Accumulation of Deficits in Survivors of Childhood Cancer	Williams/SJCRH	Chronic Disease Epi/Biostats	06.22.20	Approved	Approved
09.15.20	Examining the Associations between Frailty and Sleep in Long-Term Survivors of Childhood Cancer	Lubas/Radford University	Chronic Disease Epi/Biostats	09.25.20	Approved	Approved
09.16.20	Psychological Distress, Social Functioning, and Phenotypic Aging in Adult Survivors of Childhood Cancer	Rentscher/UCLA	Chronic Disease	09.28.20	Approved	Approved
09.18.20	Impact of Physical Activity and Psychological Distress on Neurocognitive Functioning	Sharkey/Children's National	Epi/Biostats	09.29.20	Approved	Pending
10.27.20	Neurocognitive Predictors of Risky Health Behaviors in Pediatric Cancer Survivors: Mood and Anxiety Symptoms as Moderators of Later Substance Use	Chambers (Sammons)/Palo Alto Univ.	Cancer Control	11.09.20	Approved	Approved
11.24.20	Psychologic and Cognitive Outcomes in Pediatric Cancer Survivors Diagnosed in Infancy (birth- 1 year of age) Compared to Those Diagnosed in Toddlerhood (1-3 years) and Preschool age (3-6 years)	Walling/Mott Children's Hosp		12.08.20	Approved	Pending
08.20.21	Longitudinal Effects of Diabetes on Neurocognitive Outcomes in Childhood Cancer Survivors	Alexander/SJCRH	Chronic Disease	08.30.21	Approved	Pending
09.29.21	Psychological Distress, Quality of Life, and Social Attainment of Bereaved Siblings from the CCSS	Buchbinder/CHOC		10.11.21	Approved	Pending
<b>SECOND MALIGNANT NEOPLASMS</b>						
04.10.08	Multiple Subsequent Neoplasms	Robison/SJCRH		04.20.08	Approved	Approved
06.20.08	GH Therapy and Brain Tumors as SMNs	Patterson/Emory University	Chronic Disease	03.16.09	Approved	Not Approved
12.18.08	Colorectal Cancer as SMN	Henderson/Univ. of Chicago		01.12.09	Approved	Approved
09.11.09	Late Occurring Secondary Leukemias in Survivors	Nottage/SJCRH		10.06.09	Approved	Approved

Date Received	Title	Author/ Institution	Secondary Working Group(s)	Date Investigator Notified	AOI Outcome	Concept to Publication Committee
05.25.10	Melanoma as a Second Malignant Neoplasm	Pappo/SJCRH	Genetics	06.14.10	Approved	Approved
06.18.10	Breast Cancer Following Chest RT	Oeffinger/MSKCC	Chronic Disease	07.01.10	Approved	Approved
10.28.10	Primary Tumor Recurrence and SMN After Pregnancy	Rokitka/Roswell Park		11.10.10	Approved	Pending
11.09.10	SMN After Diabetes Mellitus	Chang/UCSF	Chronic Disease	11.23.10	Approved	Withdrawn
11.11.10	Breast Cancer Risk Factors	Inskip/NCI		12.07.10	Approved	Approved
11.16.10	Radiation Dose and Risk of Meningioma	Rajaraman/NCI	Epi/Biostats		Hold	
02.03.11	Renal Cell Carcinoma	Wilson/SJCRH		03.09.11	Approved	Approved
04.13.11	Gynecological Malignancies	Nathan/Sick Kids		05.03.11	Approved	Withdrawn
04.20.11	Development and Validation of an Absolute Risk Prediction Model for Thyroid Cancer in Childhood Cancer Survivors	Ronckers/Netherlands	Epi/Biostats	05.03.11	Approved	Approved
04.27.11	Testicular Cancer Following Pediatric Cancer	Oeffinger/MSKCC	Chronic Disease	05.10.11	Approved	Withdrawn
05.03.11	Development of Radiobiologic Models of Second Cancer Risk for Childhood Cancer Patients Treated with Radiation Therapy	Hodgson/Princess Margaret	Epi/Biostats	06.02.11	Approved	Approved
05.09.11	Risk of Breast Cancer in Survivors Not Exposed to Chest Radiation	Henderson/Univ. of Chicago	Genetics	06.02.11	Approved	Approved
05.30.11	Breast Cancer Following Spinal Radiation	Moskowitz/MSKCC	Cancer Control Epi/Biostats	06.22.11	Approved	Approved
08.11.11	Subsequent Neoplasms in Adult Survivors of Childhood Cancer in Relation to Weight and Physical Activity	George/NCI	Cancer Control Epi/Biostats Psychology	08.21.11	Approved	Not Approved
08.31.11	Lymphoma as SMN	Suh/University of Chicago		09.21.11	Approved	Not Approved
04.03.12	Late Second Neoplasms in Long-Term Survivors of Childhood Cancer	Turcotte/ U of Minnesota	Epi/Biostats	04.26.12	Approved	Approved
06.07.12	Second Malignant Neoplasm in Down Syndrome Survivors of Childhood Cancer	Xavier/MUSC	Genetics	07.16.12	Approved	Withdrawn
07.03.12	Pooled International Study of Radiation Related Intracranial Tumors	Inskip/NCI		07.16.12	Approved	Approved
09.18.12	Exposure-specific Absolute Risks of Second Primary Cancer and Cardiovascular Disease for Five-Year Survivors of Childhood Hodgkin's Lymphoma	Kovalchik/NCI	Cancer Control Chronic Disease	10.05.12	Approved	Withdrawn
11.27.12	Subsequent Neoplasms in Survivors of Medulloblastoma at St. Jude Children's Research Hospital	Tsui/SJCRH	Chronic Disease	01.10.13	Approved	Approved
01.08.13	Beyond radiation: Understanding Thyroid Cancer Risk in Childhood Cancer	Turcotte/ U of Minnesota	Epi/Biostats	04.02.13	Approved	Withdrawn
04.14.13	Comparison of Radiation Dose Reconstruction Methods for Subsequent Neoplasm Studies	Morton/NCI	Epi/Biostats Genetics	05.15.13	Approved	Approved
07.24.13	HPV-related SMNs in Childhood Cancer Survivors	Henderson/University of Chicago		08.19.13	Approved	Approved
10.02.13	Radiation Dose Reconstruction Methods for Intensity Modulated Radiation Therapy (IMRT)	Howell/MD Anderson	Epi/Biostats Chronic Disease	10.14.13	Approved	Withdrawn
01.16.14	Changing Patterns of Second Neoplasms in Childhood Cancer Survivors: Comparison of Survivor Cohorts	Turcotte/ U of Minnesota	Epi/Biostats	02.11.14	Approved	Approved
01.14.14	NF1 and Second Malignant Neoplasms ( <a href="#">Ancillary Study</a> )	Bhatia/UAB	Genetics	02.19.14	Approved	Approved
01.30.14	Breast Cancer in the Modern Treatment Era	Henderson/Univ. of Chicago		02.11.14	Approved	Approved

Date Received	Title	Author/ Institution	Secondary Working Group(s)	Date Investigator Notified	AOI Outcome	Concept to Publication Committee
04.23.14	Prediction Model: Breast Cancer in Women Irradiated for a Pediatric Malignancy ( <a href="#">Ancillary Study</a> )	Moskowitz/MSKCC	Cancer Control		Approved	Approved
12.05.14	Changing Patterns of Non-Melanoma Skin Cancer in Childhood Cancer Survivors Who Received Radiation Therapy	Griffith/University of Miami	Epi/Biostats	01.15.15	Approved	Withdrawn
12.25.14	The Impact of Radiation Dose Uncertainty and Heterogeneity on Subsequent Breast Cancer Risk	Berrington/NCI	Epi/Biostats	01.15.15	Approved	Withdrawn
02.09.15	Cause-specific Mortality Among Survivors with Thyroid SMN	Barnea/MSKCC	Cancer Control	04.26.15	Approved	Approved
07.17.15	Lung Cancer as Subsequent Malignant Neoplasm	Ghosh/U of Minnesota		08.30.15	Approved	Approved
09.18.15	Patterns of CNS Neoplasms in Survivors of Childhood Cancer: A Report from the CCSS	Galvin/U of Minnesota Phelan/U of Minnesota	Epi/Biostats	09.30.15	Approved	Approved
06.23.16	Subsequent Neoplasms Among Childhood Cancer Survivors Exposed to Chemotherapy and Not Radiation	Turcotte/U of Minnesota	Epi/Biostats	07.26.16	Approved	Approved
08.04.17	Treatment Modifications and Provider Decision Making in the Management of Subsequent Breast Cancers ( <a href="#">Ancillary Study</a> )	Turcotte/U of Minnesota	Cancer Control Epi/Biostats	09.01.17	Approved	Pending
10.26.17	International Pooled Analysis of Breast Cancer Risk after Treatment for Childhood and Young Adult Cancer ( <a href="#">Ancillary Study</a> )	Ronckers/Emma Children's Hospital/AMC	Epi/Biostats	11.08.17	Approved	Pending
10.12.18	Risk and Risk Factors for Colorectal Cancer in Survivors of Childhood Cancer	Owens/MD Anderson Henderson/Univ Chicago		11.07.18	Approved	Approved
09.11.19	Body Mass Index and Risk of Subsequent Malignant Neoplasms	Joffe/Columbia University	Chronic Disease	09.24.19	Approved	Approved
10.21.19	Late and Very Late Acute Subsequent Leukemias among Survivors of Childhood Cancer	Turcotte/U of Minnesota	Epi/Biostats	12.23.19	Approved	Approved
04.03.20	Breast Imaging Analysis Among Childhood Cancer Survivors Treated with Chest Radiation ( <a href="#">Ancillary Study</a> )	Moskowitz/MSKCC	Cancer Control	04.15.20	Approved	Pending
04.08.20	Cost-effectiveness of the Children's Oncology Group Colorectal Cancer Screening Guidelines for Childhood Cancer Survivors	Nghiem/UAB	Cancer Control Epi/Biostats	04.21.20	Approved	Approved
04.14.20	Mortality after Colorectal Cancer Among Survivors	Henderson, Major/Univ Chicago	Epi/Biostats	04.27.20	Approved	Approved
09.08.20	Subsequent colorectal cancer after a childhood, adolescent or young adult cancer: An international pooled data analysis ( <a href="#">Ancillary Study</a> )	Moskowitz/MSKCC	Cancer Control	09.18.20	Approved	Pending
10.12.20	Meningiomas in Survivors of Childhood Cancer	Cooney/DFCI	Cancer Control	10.22.20	Approved	Approved
01.08.21	Nonmelanoma Skin Cancer in Survivors of Childhood and Adolescent Cancer: An update from the Childhood Cancer Survivor Study	Boull/University of Minnesota	Epi/Biostats	01.19.21	Approved	Approved
03.08.21	Melanoma among Adult Survivors of Childhood Cancer: A Report from the Childhood Cancer Survivor Study	Rotz/Cleveland Clinic		03.19.21	Approved	Approved
03.15.21	Radiotherapy- and Chemotherapy-Related Risks of Thyroid Cancer among Childhood Cancer Survivors	Morton/NCI	Epi/Biostats	03.25.21	Approved	Pending
01.10.22	Immune Deficits in Survivors of Childhood Cancer ( <a href="#">Ancillary Study</a> )	Gramatges/Baylor	Genetics	01.21.22	Approved	Pending
03.30.22	Socioeconomic status as a predictor of subsequent malignant neoplasms among survivors of childhood cancer	Turcotte/U of Minnesota	Cancer Control Epi/Biostats Psychology	04.08.21	Approved	Pending

## Publications and Manuscripts as of 5/6/2022

1. Rauck AM, Green DM, Yasui Y, Mertens A, Robison LL. Marriage in the survivors of childhood cancer: a preliminary description from the Childhood Cancer Survivor Study. *Med Pediatr Oncol*, 1999; 33(1): 60-3.
2. Yasui Y, Whitton J. Problems in using age-stratum-specific reference rates for indirect standardization. *J Clin Epidemiol*, 1999; 52(5): 393-8.
3. Sklar C, Whitton J, Mertens A, Stovall M, Green D, Marina N, Greffe B, Wolden S, Robison L. Abnormalities of the thyroid in survivors of Hodgkin's disease: data from the Childhood Cancer Survivor Study. *J Clin Endocrinol Metab*, 2000; 85(9): 3227-32.
4. Neglia JP, Friedman DL, Yasui Y, Mertens AC, Hammond S, Stovall M, Donaldson SS, Meadows AT, Robison LL. Second malignant neoplasms in five-year survivors of childhood cancer: Childhood Cancer Survivor Study. *J Natl Cancer Inst*, 2001; 93(8): 618-29.
5. Mertens AC, Yasui Y, Neglia JP, Potter JD, Nesbit ME Jr, Ruccione K, Smithson WA, Robison LL. Late mortality experience in five-year survivors of childhood and adolescent cancer: the Childhood Cancer Survivor Study. *J Clin Oncol*, 2001; 19(13): 3163-72.
6. Emmons K, Li FP, Whitton J, Mertens AC, Hutchinson R, Diller L, Robison LL. Predictors of smoking initiation and cessation among childhood cancer survivors: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2002; 20(6): 1608-16.
7. Kadan-Lottick NS, Robison LL, Gurney JG, Neglia JP, Yasui Y, Hayashi R, Hudson M, Greenberg M, Mertens AC. Childhood cancer survivors' knowledge about their past diagnosis and treatment: Childhood Cancer Survivor Study. *JAMA*, 2002; 287(14): 1832-9.
8. Robison LL, Mertens AC, Boice JD, Breslow NE, Donaldson SS, Green DM, Li FP, Meadows AT, Mulvihill JJ, Neglia JP, Nesbit ME, Packer RJ, Potter JD, Sklar CA, Smith MA, Stovall M, Strong LC, Yasui Y, Zeltzer LK. Study design and cohort characteristics of the Childhood Cancer Survivor Study: a multi-institutional collaborative project. *Med Pediatr Oncol*, 2002; 38(4): 229-39.
9. Sklar CA, Mertens AC, Mitby P, Occhiogrosso G, Qin J, Heller G, Yasui Y, Robison LL. Risk of disease recurrence and second neoplasms in survivors of childhood cancer treated with growth hormone: a report from the Childhood Cancer Survivor Study. *J Clin Endocrinol Metab*, 2002; 87(7): 3136-41.
10. Zebrack BJ, Zeltzer LK, Whitton J, Mertens AC, Odom L, Berkow R, Robison LL. Psychological outcomes in long-term survivors of childhood leukemia, Hodgkin's disease and non-Hodgkin's lymphoma: a report from the Childhood Cancer Survivor Study. *Pediatrics*, 2002; 110(1 Pt 1): 42-52.
11. Green DM, Whitton JA, Stovall M, Mertens AC, Donaldson SS, Ruymann FB, Pendergrass TW, Robison LL. Pregnancy outcome of female survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Am J Obst Gynecol*, 2002; 187(4): 1070-80.
12. Mertens AC, Yasui Y, Liu Y, Stovall M, Hutchinson R, Ginsberg J, Sklar C, Robison LL. Pulmonary complications in survivors of childhood and adolescent cancer: a report from the Childhood Cancer Survivor Study. *Cancer*, 2002; 95(11): 2431-41.
13. Gurney JG, Kadan-Lottick NS, Packer RJ, Neglia JP, Sklar CA, Punyko JA, Stovall M, Yasui Y, Nicholson HS, Wolden S, McNeil DE, Mertens AC, Robison LL. Endocrine and cardiovascular late effects among adult survivors of childhood brain tumors: Childhood Cancer Survivor Study. *Cancer*, 2003; 97(3): 663-73.
14. Green DM, Whitton JA, Stovall M, Mertens AC, Donaldson SS, Ruymann FB, Pendergrass TW, Robison LL. Pregnancy outcome of partners of male survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2003; 21(4): 716-21.
15. Mitby PA, Robison LL, Whitton JA, Zevon MA, Gibbs IC, Tersak JM, Meadows AT, Stovall M, Zeltzer LK, Mertens AC. Utilization of special education services and educational attainment among long-term survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Cancer*, 2003; 97(4): 1115-26.

16. Oeffinger KC, Mertens AC, Sklar CA, Yasui Y, Fears T, Stovall M, Vik TA, Inskip PD, Robison LL. Obesity in adult survivors of childhood acute lymphoblastic leukemia: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2003; 21(7): 1359-65.
17. Nagarajan R, Neglia JP, Clohisey DR, Yasui Y, Greenberg M, Hudson M, Zevon MA, Tersak JM, Ablin A, Robison LL. Education, employment, insurance, and marital status among 694 survivors of pediatric lower extremity bone tumors: a report from the Childhood Cancer Survivor Study. *Cancer*, 2003; 97(10): 2554-64.
18. Boice JD Jr, Tawn EJ, Winther JF, Donaldson SS, Green DM, Mertens AC, Mulvihill JJ, Olsen JH, Robison LL, Stovall M. Genetic effects of radiotherapy for childhood cancer. *Health Phys*, 2003; 85(1): 65-80.
19. Packer RJ, Gurney JG, Punyko JA, Donaldson SS, Inskip PD, Stovall M, Yasui Y, Mertens AC, Sklar CA, Nicholson HS, Zeltzer LK, Neglia JP, Robison LL. Long-term neurologic and neurosensory sequelae in adult survivors of a childhood brain tumor: Childhood Cancer Survivor Study. *J Clin Oncol*, 2003; 21(17): 3255-61.
20. Hudson MM, Mertens AC, Yasui Y, Hobbie W, Chen H, Gurney JG, Yeazel M, Recklitis CJ, Marina N, Robison LR, Oeffinger KC. Health status of adult long-term survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *JAMA*, 2003; 290(12): 1583-92.
21. Gurney JG, Ness KK, Stovall M, Wolden S, Punyko JA, Neglia JP, Mertens AC, Packer RJ, Robison LL, Sklar CA. Final height and body mass index among adult survivors of childhood brain cancer: Childhood Cancer Survivor Study. *J Clin Endocrinol Metab*, 2003; 88(10): 4731-9.
22. Kadan-Lottick NS, Friedman DL, Mertens AC, Whitton JA, Yasui Y, Strong LC, Robison LL. Self-reported family history of cancer: the utility of probing questions. *Epidemiology*, 2003; 14(6): 737-40.
23. Emmons KM, Butterfield RM, Puleo E, Park ER, Mertens A, Gritz ER, Lahti M, Li FP. Smoking among participants in the Childhood Cancer Survivors Cohort: the Partnership for Health Study. *J Clin Oncol*, 2003; 21(2): 189-96.
24. Yasui Y, Liu Y, Neglia JP, Friedman DL, Bhatia S, Meadows AT, Diller LR, Mertens AC, Whitton J, Robison LL. A methodological issue in the analysis of second-primary cancer incidence in long-term survivors of childhood cancers. *Am J Epidemiol*, 2003; 158(11): 1108-13.
25. Yeazel MW, Oeffinger KC, Gurney JG, Mertens AC, Hudson MM, Emmons KM, Chen H, Robison LL. The cancer screening practices of adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Cancer*, 2004; 100(3): 631-40.
26. Oeffinger KC, Mertens AC, Hudson MM, Gurney JG, Casillas J, Chen H, Whitton J, Yeazel M, Yasui Y, Robison LL. Health care of young adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Ann Fam Med*, 2004; 2(1): 61-70.
27. Butterfield RM, Park ER, Puleo E, Mertens A, Gritz ER, Li FP, Emmons K. Multiple risk behaviors among smokers in the Childhood Cancer Survivor Study cohort. *Psychooncology*, 2004; 13(9): 619-29.
28. Zebrack BJ, Gurney JG, Oeffinger K, Whitton J, Packer RJ, Mertens A, Turk N, Castleberry R, Dreyer Z, Robison LL, Zeltzer LK. Psychological outcomes in long-term survivors of childhood brain cancer: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2004; 22(6): 999-1006.
29. Yeazel MW, Gurney JG, Oeffinger KC, Mitby PA, Mertens AC, Hudson MM, Robison LL. An examination of the dental utilization practices of adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *J Public Health Dent*, 2004; 64(1):50-4.
30. Ross JA, Oeffinger KC, Davies SM, Mertens AC, Langer EK, Kiffmeyer WR, Sklar CA, Stovall M, Yasui Y, Robison LL. Genetic variation in the leptin receptor gene and obesity in survivors of childhood acute lymphoblastic leukemia: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2004; 22(17): 3558-62.
31. Brownstein CM, Mertens AC, Mitby PA, Stovall M, Qin J, Heller G, Robison LL, Sklar CA. Factors that affect final height and change in height standard deviation scores in survivors of childhood cancer treated with growth hormone: a report from the Childhood Cancer Survivor Study. *J Clin Endocrinol Metab*, 2004; 89(9): 4422-7.
32. Stovall M, Donaldson SS, Weathers RE, Robison LL, Mertens AC, Winther JF, Olsen JH, Boice JD Jr. Genetic effects of radiotherapy for childhood cancer: gonadal dose reconstruction. *Int J Radiat Oncol Biol Phys*, 2004; 60(2): 542-52.

33. Kenney LB, Yasui Y, Inskip PD, Hammond S, Neglia JP, Mertens AC, Meadows AT, Friedman D, Robison LL, Diller L. Breast cancer after childhood cancer: a report from the Childhood Cancer Survivor Study. *Ann Intern Med*, 2004; 141(8): 590-7.
34. Mertens AC, Walls RS, Taylor L, Mitby PA, Whitton J, Inskip PD, Potter JD, Robison LL. Characteristics of childhood cancer survivors predicted their successful tracing. *J Clin Epidemiol*, 2004; 57(9): 933-44.
35. Mertens AC, Mitby PA, Radloff G, Jones IM, Perentesis J, Kiffmeyer WR, Neglia JP, Meadows A, Potter JD, Friedman D, Yasui Y, Robison LL, Davies SM. XRCC1 and glutathione-S-transferase gene polymorphisms and susceptibility to radiotherapy-related malignancies in survivors of Hodgkin disease. *Cancer*, 2004; 101(6): 1463-72.
36. Nagarajan R, Clohisy DR, Neglia JP, Yasui Y, Mitby PA, Sklar C, Finklestein JZ, Greenberg M, Reaman GH, Zeltzer L, Robison LL. Function and quality-of-life of survivors of pelvic and lower extremity osteosarcoma and Ewing's sarcoma: the Childhood Cancer Survivor Study. *Br J Cancer*, 2004; 91(11): 1858-65.
37. Robison LL, Green DM, Hudson M, Meadows AT, Mertens AC, Packer RJ, Sklar CA, Strong LC, Yasui Y, Zeltzer LK. Long-term outcomes of adult survivors of childhood cancer. *Cancer*, 2005; 104(11 Suppl): 2557-64.
38. Meacham LR, Gurney JG, Mertens AC, Ness KK, Sklar CA, Robison LL, Oeffinger KC. Body mass index in long-term adult survivors of childhood cancer: a report of the Childhood Cancer Survivor Study. *Cancer*, 2005; 103(8): 1730-9.
39. Emmons KM, Puleo E, Park E, Gritz ER, Butterfield RM, Weeks JC, Mertens A, Li FP. Peer-delivered smoking counseling for childhood cancer survivors increases rate of cessation: the partnership for Health Study. *J Clin Oncol*, 2005; 23(27): 6516-23.
40. Sigurdson AJ, Ronckers CM, Mertens AC, Stovall M, Smith SA, Liu Y, Berkow RL, Hammond S, Neglia JP, Meadows AT, Sklar CA, Robison LL, Inskip PD. Primary thyroid cancer after a first tumour in childhood (the Childhood Cancer Survivor Study): a nested case-control study. *Lancet*, 2005; 365(9476): 2014-23.
41. Park ER, Li FP, Liu Y, Emmons KM, Ablin A, Robison LL, Mertens AC. Health insurance coverage in survivors of childhood cancer: the Childhood Cancer Survivor Study. *J Clin Oncol*, 2005; 23(36): 9187-97.
42. Ness KK, Mertens AC, Hudson MM, Wall MM, Leisenring WM, Oeffinger KC, Sklar CA, Robison LL, Gurney JG. Limitations on physical performance and daily activities among long-term survivors of childhood cancer. *Ann Intern Med*, 2005; 143(9): 6390-47.
43. Bowers DC, McNeil DE, Liu Y, Yasui Y, Stovall M, Gurney JG, Hudson MM, Donaldson SS, Packer RJ, Mitby PA, Kasper CE, Robison LL, Oeffinger KC. Stroke as a late treatment effect of Hodgkin's disease: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2005; 23(27): 6508-15.
44. Castellino SM, Casillas J, Hudson MM, Mertens AC, Whitton J, Brooks SL, Zeltzer LK, Ablin A, Castleberry R, Hobbie W, Kaste S, Robison LL, Oeffinger KC. Minority adult survivors of childhood cancer: a comparison of long-term outcomes, health care utilization, and health-related behaviors from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2005; 23(27): 6499-507.
45. Friedman DL, Kadan-Lottick NS, Whitton J, Mertens AC, Yasui Y, Liu Y, Meadows AT, Robison LL, Strong LC. Increased risk of cancer among siblings of long-term childhood cancer survivors: a report from the Childhood Cancer Survivor Study. *Cancer Epidemiol Biomarkers Prev*, 2005; 14(8): 1922-7.
46. Perkins JL, Liu Y, Mitby PA, Neglia JP, Hammond S, Stovall M, Meadows AT, Hutchinson R, Dreyer ZE, Robison LL, Mertens AC. Nonmelanoma skin cancer in survivors of childhood and adolescent cancer: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2005; 23(16): 3733-41.
47. Punyko JA, Mertens AC, Gurney JG, Yasui Y, Donaldson SS, Rodeberg DA, Raney RB, Stovall M, Sklar CA, Robison LL, Baker KS. Long-term medical effects of childhood and adolescent rhabdomyosarcoma: a report from the Childhood Cancer Survivor Study. *Pediatr Blood Cancer*, 2005; 44(7): 643-53.
48. Robison LL. The Childhood Cancer Survivor Study: a resource for research of long-term outcomes among adult survivors of childhood cancer. *Minn Med*, 2005; 88(4): 45-9.

49. Kadan-Lottick NS, Kawashima T, Tomlinson G, Friedman DL, Yasui Y, Mertens AC, Robison LL, Strong LC. The risk of cancer in twins: a report from the Childhood Cancer Survivor Study. *Pediatr Blood Cancer*, 2006; 46(4): 476-81.
50. Chemaitilly W, Mertens AC, Mitby P, Whitton J, Stovall M, Yasui Y, Robison LL, Sklar CA. Acute ovarian failure in the Childhood Cancer Survivor Study. *J Clin Endocrinol Metab*, 2006; 91(5): 1723-8.
51. Bassal M, Mertens AC, Taylor L, Neglia JP, Greffe BS, Hammond S, Ronckers CM, Friedman DL, Stovall M, Yasui YY, Robison LL, Meadows AT, Kadan-Lottick NS. Risk of selected subsequent carcinomas in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2006; 24(3): 476-83.
52. Recklitis CJ, Parsons SK, Shih MC, Mertens A, Robison LL, Zeltzer LK. Factor structure of the brief symptom inventory--18 in adult survivors of childhood cancer: results from the Childhood Cancer Survivor Study. *Psychol Assess*, 2006; 18(1): 22-32.
53. Sklar CA, Mertens AC, Mitby P, Whitton J, Stovall M, Kasper C, Mulder J, Green D, Nicholson HS, Yasui Y, Robison LL. Premature menopause in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *J Natl Cancer Inst*, 2006; 98(13): 890-6.
54. Ergun-Longmire B, Mertens AC, Mitby P, Qin J, Heller G, Shi W, Yasui Y, Robison LL, Sklar CA. Growth hormone treatment and risk of second neoplasms in the childhood cancer survivor. *J Clin Endocrinol Metab*, 2006; 91(9): 3494-8.
55. Signorello LB, Cohen SS, Bosetti C, Stovall M, Kasper CE, Weathers RE, Whitton JA, Green DM, Donaldson SS, Mertens AC, Robison LL, Boice JD Jr. Female survivors of childhood cancer: preterm birth and low birth weight among their children. *J Natl Cancer Inst*, 2006; 98(20): 1453-61.
56. Ronckers CM, Sigurdson AJ, Stovall M, Smith SA, Mertens AC, Liu Y, Hammond S, Land CE, Neglia JP, Donaldson SS, Meadows AT, Sklar CA, Robison LL, Inskip PD. Thyroid cancer in childhood cancer survivors: a detailed evaluation of radiation dose response and its modifiers. *Radiat Res*, 2006; 166(4): 618-28.
57. Oeffinger KC, Mertens AC, Sklar CA, Kawashima T, Hudson MM, Meadows AT, Friedman DL, Marina N, Hobbie W, Kadan-Lottick NS, Schwartz CL, Leisenring W, Robison LL. Chronic health conditions in adult survivors of childhood cancer. *N Engl J Med*, 2006; 355(15): 1572-82.
58. Neglia JP, Robison LL, Stovall M, Liu Y, Packer RJ, Hammond S, Yasui Y, Kasper CE, Mertens AC, Donaldson SS, Meadows AT, Inskip PD. New primary neoplasms of the central nervous system in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *J Natl Cancer Inst*, 2006; 98(21): 1528-37.
59. Bowers DC, Liu Y, Leisenring W, McNeil E, Stovall M, Gurney JG, Robison LL, Packer RJ, Oeffinger KC. Late-occurring stroke among long-term survivors of childhood leukemia and brain tumors: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2006; 24(33): 5277-82.
60. Gurney JG, Ness KK, Sibley SD, O'Leary M, Dengel DR, Lee JM, Youngren NM, Glasser SP, Baker KS. Metabolic syndrome and growth hormone deficiency in adult survivors of childhood acute lymphoblastic leukemia. *Cancer*, 2006; 107(6): 1303-12.
61. Park ER, Puleo E, Butterfield RM, Zorn M, Mertens AC, Gritz ER, Li FP, Emmons KM. A process evaluation of a telephone-based peer-delivered smoking cessation intervention for adult survivors of childhood cancer: the Partnership for Health Study. *Prev Med*, 2006; 42(6): 435-42.
62. Nathan PC, Ness KK, Greenberg ML, Hudson M, Wolden S, Davidoff A, Laverdiere C, Mertens A, Whitton J, Robison LL, Zeltzer L, Gurney JG. Health-related quality of life in adult survivors of childhood Wilms tumor or neuroblastoma: a report from the Childhood Cancer Survivor Study. *Pediatr Blood Cancer*, 2007; 49(5): 704-15.
63. Zebrack BJ, Zevon MA, Turk N, Nagarajan R, Whitton J, Robison LL, Zeltzer LK. Psychological distress in long-term survivors of solid tumors diagnosed in childhood: a report from the Childhood Cancer Survivor Study. *Pediatr Blood Cancer*, 2007; 49(1): 47-51.
64. Punyko JA, Gurney JG, Scott Baker K, Hayashi RJ, Hudson MM, Liu Y, Robison LL, Mertens AC. Physical impairment and social adaptation in adult survivors of childhood and adolescent rhabdomyosarcoma: a report from the Childhood Cancer Survivors Study. *Psychooncology*, 2007; 16(1): 26-37.

65. Henderson TO, Whitton J, Stovall M, Mertens AC, Mitby P, Friedman D, Strong LC, Hammond S, Neglia JP, Meadows AT, Robison L, Diller L. Secondary sarcomas in childhood cancer survivors: a report from the Childhood Cancer Survivor Study. *J Natl Cancer Inst*, 2007; 99(4): 300-8.
66. Chow EJ, Friedman DL, Yasui Y, Whitton JA, Stovall M, Robison LL, Sklar CA. Decreased adult height in survivors of childhood acute lymphoblastic leukemia: a report from the Childhood Cancer Survivor Study. *J Pediatr*, 2007; 150(4): 370-5, 375.e1.
67. Florin TA, Fryer GE, Miyoshi T, Weitzman M, Mertens AC, Hudson MM, Sklar CA, Emmons K, Hinkle A, Whitton J, Stovall M, Robison LL, Oeffinger KC. Physical inactivity in adult survivors of childhood acute lymphoblastic leukemia: a report from the Childhood Cancer Survivor Study. *Cancer Epidemiol Biomarkers Prev*, 2007; 16(7): 1356-63.
68. Schultz KA, Ness KK, Whitton J, Recklitis C, Zebrack B, Robison LL, Zeltzer L, Mertens AC. Behavioral and social outcomes in adolescent survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2007; 25(24): 3649-56.
69. Ness KK, Baker KS, Dengel DR, Youngren N, Sibley S, Mertens AC, Gurney JG. Body composition, muscle strength deficits and mobility limitations in adult survivors of childhood acute lymphoblastic leukemia. *Pediatr Blood Cancer*, 2007; 49(7): 975-81.
70. Davies SM. Subsequent malignant neoplasms in survivors of childhood cancer: Childhood Cancer Survivor Study (CCSS) studies. *Pediatr Blood Cancer*, 2007; 48(7): 727-30.
71. Mertens AC. Cause of mortality in 5-year survivors of childhood cancer. *Pediatr Blood Cancer*, 2007; 48(7): 723-6.
72. Mertens AC, Sencer S, Myers CD, Recklitis C, Kadan-Lottick N, Whitton J, Marina N, Robison LL, Zeltzer L. Complementary and alternative therapy use in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Pediatr Blood Cancer*, 2008; 50(1): 90-7.
73. Pang JW, Friedman DL, Whitton JA, Stovall M, Mertens AC, Robison LL, Weiss NS. Employment status among adult survivors in the Childhood Cancer Survivor Study. *Pediatr Blood Cancer*, 2008; 50(1): 104-10.
74. Dinu I, Liu Y, Leisenring W, Mertens AC, Neglia JP, Hammond S, Robison LL, Yasui Y. Prediction of second malignant neoplasm incidence in a large cohort of long-term survivors of childhood cancers. *Pediatr Blood Cancer*, 2008; 50(5): 1026-31.
75. Chow EJ, Friedman DL, Yasui Y, Whitton JA, Stovall M, Robison LL, Sklar CA. Timing of menarche among survivors of childhood acute lymphoblastic leukemia: a report from the Childhood Cancer Survivor Study. *Pediatr Blood Cancer*, 2008; 50(4): 854-8.
76. Mulrooney DA, Ness KK, Neglia JP, Whitton JA, Green DM, Zeltzer LK, Robison LL, Mertens AC. Fatigue and sleep disturbance in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Sleep*, 2008; 31(2): 271-81.
77. Ness KK, Gurney JG, Zeltzer LK, Leisenring W, Mulrooney DA, Nathan PC, Robison LL, Mertens AC. The impact of limitations in physical, executive, and emotional function on health-related quality of life among adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Arch Phys Med Rehabil*, 2008; 89(1): 128-36.
78. Zeltzer LK, Lu Q, Leisenring W, Tsao JC, Recklitis C, Armstrong GT, Mertens AC, Robison LL, Ness KK. Psychosocial outcomes and health-related quality of life in adult childhood cancer survivors: a report from the Childhood Cancer Survivor Study. *Cancer Epidemiol Biomarkers Prev*, 2008; 17(2): 435-46.
79. Mulrooney DA, Dover DC, Li S, Yasui Y, Ness KK, Mertens AC, Neglia JP, Sklar CA, Robison LL, Davies SM. Twenty years follow-up among survivors of childhood and young adult acute myeloid leukemia: a report from the Childhood Cancer Survivor Study. *Cancer*, 2008; 112(9): 2071-9.
80. Bluhm EC, Ronckers C, Hayashi RJ, Neglia JP, Mertens AC, Stovall M, Meadows AT, Mitby PA, Whitton JA, Hammond S, Barker JD, Donaldson SS, Robison LL, Inskip PD. Cause-specific mortality and second cancer incidence after non-Hodgkin lymphoma: a report from the Childhood Cancer Survivor Study. *Blood*, 2008; 111(8): 4014-21.

81. Mody R, Li S, Dover DC, Sallan S, Leisenring W, Oeffinger KC, Yasui Y, Robison LL, Neglia JP. Twenty-five-year follow-up among survivors of childhood acute lymphoblastic leukemia: a report from the Childhood Cancer Survivor Study. *Blood*, 2008; 111(12): 5515-23.
82. Blanco JG, Leisenring WM, Gonzalez-Covarrubias VM, Kawashima TI, Davies SM, Relling MV, Robison LL, Sklar CA, Stovall M, Bhatia S. Genetic polymorphisms in the carbonyl reductase 3 gene CBR3 and the NAD (P)H: quinone oxidoreductase 1 gene NQO1 in patients who developed anthracycline-related congestive heart failure after childhood cancer. *Cancer*, 2008; 112(12): 2789-95.
83. Kadan-Lottick NS, Dinu I, Wasilewski-Masker K, Kaste S, Meacham LR, Mahajan A, Stovall M, Yasui Y, Robison LL, Sklar CA. Osteonecrosis in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2008; 26(18): 3038-45.
84. Lown EA, Goldsby R, Mertens AC, Greenfield T, Bond J, Whitton J, Korcha R, Robison LL, Zeltzer LK. Alcohol consumption patterns and risk factors among childhood cancer survivors compared to siblings and general population peers. *Addiction*, 2008; 103(7): 1139-48.
85. Robien K, Ness KK, Klesges LM, Baker KS, Gurney JG. Poor adherence to dietary guidelines among adult survivors of childhood acute lymphoblastic leukemia. *J Pediatr Hematol Oncol*, 2008; 30(11): 815-22.
86. Garmey EG, Liu Q, Sklar CA, Meacham LR, Mertens AC, Stovall MA, Yasui Y, Robison LL, Oeffinger KC. Longitudinal changes in obesity and body mass index among adult survivors of childhood acute lymphoblastic leukemia: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2008; 26(28): 4639-45.
87. Nathan PC, Greenberg ML, Ness KK, Hudson MM, Mertens AC, Mahoney MC, Gurney JG, Donaldson SS, Leisenring WM, Robison LL, Oeffinger KC. Medical care in long-term survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2008; 26(27): 4401-9.
88. Krull KR, Gioia G, Ness KK, Ellenberg L, Recklitis C, Leisenring W, Huang S, Stovall M, Robison LL, Zeltzer L. Reliability and validity of the Childhood Cancer Survivor Study neurocognitive questionnaire. *Cancer*, 2008; 113(8): 2188-97.
89. Mertens AC, Liu Q, Neglia JP, Wasilewski K, Leisenring W, Armstrong GT, Robison LL, Yasui Y. Cause-specific late mortality among 5-year survivors of childhood cancer: the Childhood Cancer Survivor Study. *J Natl Cancer Inst*, 2008; 100(19): 1368-79.
90. Cox CL, Montgomery M, Oeffinger KC, Leisenring W, Zeltzer L, Whitton JA, Mertens AC, Hudson MM, Robison LL. Promoting physical activity in childhood cancer survivors: results from the Childhood Cancer Survivor Study. *Cancer*, 2009; 115(3): 642-54.
91. Emmons KM, Puleo E, Mertens A, Gritz ER, Diller L, Li FP. Long-term smoking cessation outcomes among childhood cancer survivors in the Partnership for Health Study. *J Clin Oncol*, 2009; 27(1): 52-60.
92. Ness KK, Leisenring W, Goodman P, Kawashima T, Mertens AC, Oeffinger KC, Armstrong GT, Robison LL. Assessment of selection bias in clinic-based populations of childhood cancer survivors: a report from the Childhood Cancer Survivor Study. *Pediatr Blood Cancer*, 2009; 52(3): 379-86.
93. Nagarajan R, Mogil R, Neglia JP, Robison LL, Ness KK. Self-reported global function among adult survivors of childhood lower-extremity bone tumors: a report from the Childhood Cancer Survivor Study (CCSS). *J Cancer Surviv*, 2009; 3(1): 59-65.
94. Cox CL, Hudson MM, Mertens A, Oeffinger K, Whitton J, Montgomery M, Robison LL. Medical screening participation in the childhood cancer survivor study. *Arch Intern Med*, 2009; 169(5): 454-62.
95. Cox CL, Oeffinger KC, Montgomery M, Hudson MM, Mertens AC, Whitton J, Robison LL. Determinants of mammography screening participation in adult childhood cancer survivors: Results from the Childhood Cancer Survivor Study. *Oncol Nurs Forum*, 2009; 36(3): 335-344.
96. Ness KK, Leisenring WM, Huang S, Hudson MM, Gurney JG, Whelan K, Hobbie WL, Armstrong GT, Robison LL, Oeffinger KC. Predictors of inactive lifestyle among adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Cancer*, 2009; 115(9): 1984-94.

97. Oeffinger KC, Ford JS, Moskowitz CS, Diller LR, Hudson MM, Chou JF, Smith SM, Mertens AC, Henderson TO, Friedman DL, Leisenring WM, Robison LL. Breast cancer surveillance practices among women previously treated with chest radiation for a childhood cancer. *JAMA*, 2009; 301(4): 404-14.
98. Green DM, Kawashima T, Stovall M, Leisenring W, Sklar CA, Mertens AC, Donaldson SS, Byrne J, Robison LL. Fertility of female survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2009; 27(16): 2677-85.
99. Armstrong GT, Whitton JA, Gajjar A, Kun LE, Chow EJ, Stovall M, Leisenring W, Robison LL, Sklar CA. Abnormal timing of menarche in survivors of central nervous system tumors: a report from the Childhood Cancer Survivor Study. *Cancer*, 2009; 115(11): 2562-70.
100. Chow EJ, Friedman DL, Stovall M, Yasui Y, Whitton JA, Robison LL, Sklar CA. Risk of thyroid dysfunction and subsequent thyroid cancer among survivors of acute lymphoblastic leukemia: a report from the Childhood Cancer Survivor Study. *Pediatr Blood Cancer*, 2009; 53(3): 432-7.
101. Inskip PD, Robison LL, Stovall M, Smith SA, Hammond S, Mertens AC, Whitton JA, Diller L, Kenney L, Donaldson SS, Meadows AT, Neglia JP. Radiation dose and breast cancer risk in the Childhood Cancer Survivor Study. *J Clin Oncol*, 2009; 27(24): 3901-7.
102. Nathan PC, Ness KK, Greenberg ML, Robison LL, Oeffinger KC. Medical care in adult survivors of childhood cancer: data from the Childhood Cancer Survivor Study. *Am J Hematol Oncol*, 2009; 8(5): 231-238.
103. Meacham LR, Sklar CA, Li S, Liu Q, Gimpel N, Yasui Y, Whitton JA, Stovall M, Robison LL, Oeffinger KC. Diabetes Mellitus in long-term survivors of childhood cancer. Increased risk associated with radiation therapy: a report from the Childhood Cancer Survivor Study. *Arch Intern Med*, 2009; 169(15): 1381-8.
104. Kaste SC, Goodman P, Leisenring W, Stovall M, Hayashi RJ, Yeazel M, Beiraghi S, Hudson MM, Sklar CA, Robison LL, Baker KS. Impact of radiation and chemotherapy on risk of dental abnormalities: a report from the Childhood Cancer Survivor Study. *Cancer*, 2009; 115(24): 5817-27.
105. Armstrong GT, Liu Q, Yasui Y, Huang S, Ness KK, Leisenring W, Hudson MM, Donaldson SS, King AA, Stovall M, Krull KR, Robison LL, Packer RJ. Long-term outcomes among adult survivors of childhood central nervous system malignancies in the Childhood Cancer Survivor Study. *J Natl Cancer Inst*, 2009; 101(13): 946-58.
106. Buchanan N, Leisenring W, Mitby PA, Meadows AT, Robison LL, Hudson MM, Mertens AC. Behaviors associated with ultraviolet radiation exposure in a cohort of adult survivors of childhood and adolescent cancer: a report from the Childhood Cancer Survivor Study. *Cancer*, 2009; 115(18 Suppl): 4374-84.
107. Ellenberg L, Liu Q, Gioia G, Yasui Y, Packer RJ, Mertens A, Donaldson SS, Stovall M, Kadan-Lottick N, Armstrong GT, Robison LL, Zeltzer LK. Neurocognitive status in long-term survivors of childhood CNS malignancies: a report from the Childhood Cancer Survivor Study. *Neuropsychology*, 2009; 23(6): 705-17.
108. Robison LL. Treatment-associated subsequent neoplasms among long-term survivors of childhood cancer: the experience of the Childhood Cancer Survivor Study. *Pediatr Radiol*, 2009; 39 Suppl 1:S32-7.
109. Robison LL, Armstrong GT, Boice JD, Chow EJ, Davies SM, Donaldson SS, Green DM, Hammond S, Meadows AT, Mertens AC, Mulvihill JJ, Nathan PC, Neglia JP, Packer RJ, Rajaraman P, Sklar CA, Stovall M, Strong LC, Yasui Y, Zeltzer LK. The Childhood Cancer Survivor Study: a National Cancer Institute-supported resource for outcome and intervention research. *J Clin Oncol*, 2009; 27(14): 2308-18.
110. Leisenring WM, Mertens AC, Armstrong GT, Stovall MA, Neglia JP, Lanctot JQ, Boice JD Jr, Whitton JA, Yasui Y. Pediatric cancer survivorship research: experience of the Childhood Cancer Survivor Study. *J Clin Oncol*, 2009; 27(14): 2319-27.
111. Armstrong GT, Liu Q, Yasui Y, Neglia JP, Leisenring W, Robison LL, Mertens AC. Late mortality among 5-year survivors of childhood cancer: a summary from the Childhood Cancer Survivorship Study. *J Clin Oncol*, 2009; 27(14): 2328-38.
112. Diller L, Chow EJ, Gurney JG, Hudson MM, Kadan-Lottick NS, Kawashima TI, Leisenring WM, Meacham LR, Mertens AC, Mulrooney DA, Oeffinger KC, Packer RJ, Robison LL, Sklar CA. Chronic disease in the Childhood Cancer Survivor Study cohort: a review of published findings. *J Clin Oncol*, 2009; 27(14): 2339-55.

113. Meadows AT, Friedman DL, Neglia JP, Mertens AC, Donaldson SS, Stovall M, Hammond S, Yasui Y, Inskip PD. Second neoplasms in survivors of childhood cancer: findings from the Childhood Cancer Survivor Study cohort. *J Clin Oncol*, 2009; 27(14): 2356-62.
114. Nathan PC, Ford JS, Henderson TO, Hudson MM, Emmons KM, Casillas JN, Lown EA, Ness KK, Oeffinger KC. Health behaviors, medical care, and interventions to promote healthy living in the Childhood Cancer Survivor Study cohort. *J Clin Oncol*, 2009; 27(14): 2363-73.
115. Green DM, Sklar CA, Boice JD Jr, Mulvihill JJ, Whitton JA, Stovall M, Yasui Y. Ovarian failure and reproductive outcomes after childhood cancer treatment: results from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2009; 27(14): 2374-81.
116. Ness KK, Hudson MM, Ginsberg JP, Nagarajan R, Kaste SC, Marina N, Whitton J, Robison LL, Gurney JG. Physical performance limitations in the Childhood Cancer Survivor Study Cohort. *J Clin Oncol*, 2009; 27(14): 2382-9.
117. Gurney JG, Krull KR, Kadan-Lottick N, Nicholson HS, Nathan PC, Zebrack B, Tersak JM, Ness KK. Social outcomes in the Childhood Cancer Survivor Study cohort. *J Clin Oncol*, 2009; 27(14): 2390-5.
118. Zeltzer LK, Recklitis C, Buchbinder D, Zebrack B, Casillas J, Tsao JC, Lu Q, Krull K. Psychological status in childhood cancer survivors: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2009; 27(14): 2396-404.
119. Hudson MM, Mulrooney DA, Bowers DC, Sklar CA, Green DM, Donaldson SS, Oeffinger KC, Neglia JP, Meadows AT, Robison LL. High-risk populations identified in Childhood Cancer Survivor Study investigations: implications for risk-based surveillance. *J Clin Oncol*, 2009; 27(14): 2405-14.
120. Laverdiere C, Liu Q, Yasui Y, Nathan PC, Gurney JG, Stovall M, Diller LR, Cheung NK, Wolden S, Robison LL, Sklar CA. Long-term outcomes in survivors of Neuroblastoma: a report from the Childhood Cancer Survivor Study. *J Natl Cancer Inst*, 2009; 101(16): 1131-40.
121. Janson C, Leisenring W, Cox C, Termuhlen AM, Mertens AC, Whitton JA, Goodman P, Zeltzer L, Robison LL, Krull KR, Kadan-Lottick NS. Predictors of marriage and divorce in adult survivors of childhood cancers: a report from the Childhood Cancer Survivor Study. *Cancer Epidemiol Biomarkers Prev*, 2009; 18(10): 2626-35.
122. Wasilewski-Masker K, Liu Q, Yasui Y, Leisenring W, Meacham LR, Hammond S, Meadows AT, Robison LL, Mertens AC. Late recurrence in pediatric cancer: a report from the Childhood Cancer Survivor Study. *J Natl Cancer Inst*, 2009; 101(24): 1709-20.
123. Mulrooney DA, Yeazel MW, Kawashima T, Mertens AC, Mitby P, Stovall M, Donaldson SS, Green DM, Sklar CA, Robison LL, Leisenring WM. Cardiac outcomes in a cohort of adult survivors of childhood and adolescent cancer: retrospective analysis of the Childhood Cancer Survivor Study cohort. *BMJ*, 2009; 339: b4606.
124. Recklitis CJ, Diller LR, Li X, Najita J, Robison LL, Zeltzer L. Suicide ideation in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2010; 28(4): 655-61.
125. Lansdale M, Castellino S, Marina N, Goodman P, Hudson MM, Mertens AC, Smith SM, Leisenring W, Robison LL, Oeffinger KC. Knowledge of hepatitis C virus screening in long-term pediatric cancer survivors: a report from the Childhood Cancer Survivor Study. *Cancer*, 2010; 116(4): 974-82.
126. Goldsby RE, Liu Q, Nathan PC, Bowers DC, Yeaton-Massey A, Raber SH, Hill D, Armstrong GT, Yasui Y, Zeltzer L, Robison LL, Packer RJ. Late-occurring neurologic sequelae in adult survivors of childhood acute lymphoblastic leukemia: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2010; 28(2): 324-31.
127. Whelan KF, Stratton K, Kawashima T, Waterbor JW, Castleberry RP, Stovall M, Sklar CA, Packer RJ, Mitby P, Aitken CL, Blatt J, Robison LL, Mertens AC. Ocular late effects in childhood and adolescent cancer survivors: a report from the Childhood Cancer Survivor Study. *Pediatr Blood Cancer*, 2010; 54(1): 103-9.
128. Green DM, Kawashima T, Stovall M, Leisenring W, Sklar CA, Mertens AC, Donaldson SS, Byrne J, Robison LL. Fertility of male survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2010; 28(2): 332-9.

129. Meacham LR, Chow EJ, Ness KK, Kamdar KY, Chen Y, Yasui Y, Oeffinger KC, Sklar CA, Robison LL, Mertens AC. Cardiovascular risk factors in adult survivors of pediatric cancer - a report from the Childhood Cancer Survivor Study. *Cancer Epidemiol Biomarkers Prev*, 2010; 19(1): 170-81.
130. Breslow NE, Lange JM, Friedman DL, Green DM, Hawkins MM, Murphy MF, Neglia JP, Olsen JH, Peterson SM, Stiller CA, Robison LL. Secondary malignant neoplasms after Wilms tumor: an international collaborative study. *Int J Cancer*, 2010; 127(3): 657-66.
131. Kahalley LS, Robinson LA, Tyc VL, Hudson MM, Leisenring W, Stratton K, Zeltzer L, Mertens AC, Robison LL, Hinds PS. Attentional and executive dysfunction as predictors of smoking within the Childhood Cancer Survivor Study cohort. *Nicotine Tob Res*, 2010; 12(4): 344-54.
132. Krull KR, Huang S, Gurney JG, Klosky JL, Leisenring W, Termuhlen A, Ness KK, Kumar Srivastava D, Mertens A, Stovall M, Robison LL, Hudson MM. Adolescent behavior and adult health status in childhood cancer survivors. *J Cancer Surviv*, 2010; 4(3): 210-7.
133. Stuber ML, Meeske KA, Krull KR, Leisenring W, Stratton K, Kazak AE, Huber M, Zebrack B, Uijtdehaage SH, Mertens AC, Robison LL, Zeltzer LK. Prevalence and predictors of posttraumatic stress disorder in adult survivors of childhood cancer. *Pediatrics*, 2010; 125(5): e1124-34.
134. Kirchhoff AC, Leisenring W, Krull KR, Ness KK, Friedman DL, Armstrong GT, Stovall M, Park ER, Oeffinger KC, Hudson MM, Robison LL, Wickizer T. Unemployment among adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Med Care*, 2010; 48(11): 1015-25.
135. Kadan-Lottick NS, Zeltzer LK, Liu Q, Yasui Y, Ellenberg L, Gioia G, Robison LL, Krull KR. Neurocognitive functioning in adult survivors of childhood non-central nervous system cancers. *J Natl Cancer Inst*, 2010; 102(12): 881-93.
136. Ness KK, Li C, Mitby PA, Radloff GA, Mertens AC, Davies SM, Hammond S, Armstrong GT, Robison LL. Characteristics of responders to a request for a buccal cell specimen among survivors of childhood cancer and their siblings. *Pediatr Blood Cancer*, 2010; 55(1): 165-70.
137. Signorello LB, Mulvihill JJ, Green DM, Munro HM, Stovall M, Weathers RE, Mertens AC, Whitton JA, Robison LL, Boice JD Jr. Stillbirth and neonatal death in relation to radiation exposure before conception: a retrospective cohort study. *Lancet*, 2010; 376(9741): 624-30.
138. Friedman DL, Whitton J, Leisenring W, Mertens AC, Hammond S, Stovall M, Donaldson SS, Meadows AT, Robison LL, Neglia JP. Subsequent neoplasms in 5-year survivors of childhood cancer: the Childhood Cancer Survivor Study. *J Natl Cancer Inst*, 2010; 102(14): 1083-95.
139. Smith SM, Ford JS, Rakowski W, Moskowitz CS, Diller L, Hudson MM, Mertens AC, Stanton AL, Henderson TO, Leisenring WM, Robison LL, Oeffinger KC. Inconsistent mammography perceptions and practices among women at risk of breast cancer following a pediatric malignancy: a report from the Childhood Cancer Survivor Study. *Cancer Causes Control*, 2010; 21(10): 1585-95.
140. Bhatti P, Veiga LH, Ronchers CM, Sigurdson AJ, Stovall M, Smith SA, Weathers R, Leisenring W, Mertens AC, Hammond S, Friedman DL, Neglia JP, Meadows AT, Donaldson SS, Sklar CA, Robison LL, Inskip PD. Risk of second primary thyroid cancer after radiotherapy for a childhood cancer in a large cohort study: an update from the Childhood Cancer Survivor Study. *Radiat Res*, 2010; 174(6): 741-52.
141. Nathan PC, Ness KK, Mahoney MC, Li Z, Hudson MM, Ford JS, Landier W, Stovall M, Armstrong GT, Henderson TO, Robison LL, Oeffinger KC. Screening and surveillance for second malignant neoplasms in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Ann Intern Med*, 2010; 153(7): 442-51.
142. Ginsberg JP, Goodman P, Leisenring W, Ness KK, Meyers PA, Wolden SL, Smith SM, Stovall M, Hammond S, Robison LL, Oeffinger KC. Long-term survivors of childhood Ewing sarcoma: report from the Childhood Cancer Survivor Study. *J Natl Cancer Inst*, 2010; 102(16): 1272-83.
143. Armstrong GT, Jain N, Liu W, Merchant TE, Stovall M, Srivastava DK, Gurney JG, Packer RJ, Robison LL, Krull KR. Region-specific radiotherapy and neuropsychological outcomes in adult survivors of childhood CNS malignancies. *Neuro Oncol*, 2010; 12(11): 1173-86.

144. Armstrong GT, Stovall M, Robison LL. Long-term effects of radiation exposure among adult survivors of childhood cancer: results from the childhood cancer survivor study. *Radiat Res*, 2010; 174(6): 840-50.
145. Armstrong GT. Long-term survivors of childhood central nervous system malignancies: the experience of the Childhood Cancer Survivor Study. *Eur J Paediatr Neurol*, 2010; 14(4): 298-303.
146. Nagarajan R, Kamruzzaman A, Ness KK, Marchese VG, Sklar C, Mertens A, Yasui Y, Robison LL, Marina N. Twenty years of follow-up of survivors of childhood osteosarcoma: a report from the Childhood Cancer Survivor Study. *Cancer*, 2011; 117(3): 625-34.
147. Montgomery M, Huang S, Cox CL, Leisenring WM, Oeffinger KC, Hudson MM, Ginsberg J, Armstrong GT, Robison LL, Ness KK. Physical therapy and chiropractic use among childhood cancer survivors with chronic disease: impact on health-related quality of life. *J Cancer Surviv*, 2011; 5(1): 73-81.
148. Casillas J, Castellino SM, Hudson MM, Mertens AC, Lima IS, Liu Q, Zeltzer LK, Yasui Y, Robison LL, Oeffinger KC. Impact of insurance type on survivor-focused and general preventive health care utilization in adult survivors of childhood cancer: the Childhood Cancer Survivor Study (CCSS). *Cancer*, 2011; 117(9): 1966-75.
149. Castellino SM, Geiger AM, Mertens AC, Leisenring WM, Tooze JA, Goodman P, Stovall M, Robison LL, Hudson MM. Morbidity and mortality in long-term survivors of Hodgkin lymphoma: a report from the Childhood Cancer Survivor Study. *Blood*, 2011; 117(6): 1806-16.
150. Kunin-Batson A, Kadan-Lottick N, Zhu L, Cox C, Bordes-Edgar V, Srivastava DK, Zeltzer L, Robison LL, Krull KR. Predictors of independent living status in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Pediatr Blood Cancer*, 2011; 57(7): 1197-203.
151. Oeffinger KC, Hudson MM, Mertens AC, Smith SM, Mitby PA, Eshelman-Kent DA, Ford JS, Jones JK, Kamani S, Robison LL. Increasing rates of breast cancer and cardiac surveillance among high-risk survivors of childhood Hodgkin lymphoma following a mailed, one-page survivorship care plan. *Pediatr Blood Cancer*, 2011; 56(5): 818-24.
152. Nottage K, Lancot J, Li Z, Neglia JP, Bhatia S, Hammond S, Leisenring W, Meadows A, Srivastava D, Robison LL, Armstrong GT. Long-term risk for subsequent leukemia after treatment for childhood cancer: a report from the Childhood Cancer Survivor Study. *Blood*, 2011; 117(23): 6315-8.
153. Zhu L, Sun J, Srivastava DK, Tong X, Leisenring W, Zhang H, Robison LL. Semiparametric transformation models for joint analysis of multivariate recurrent and terminal events. *Stat Med*, 2011, 30(25): 3010-23.
154. Goldsby R, Chen Y, Raber S, Li L, Diefenbach K, Shnorhavorian M, Kadan-Lottick N, Kastrinos F, Yasui Y, Stovall M, Oeffinger K, Sklar C, Armstrong GT, Robison LL, Diller L. Survivors of childhood cancer have increased risk of gastrointestinal complications later in life. *Gastroenterology*, 2011; 140(5): 1464-71.
155. Whelan K, Stratton K, Kawashima T, Leisenring W, Hayashi S, Waterbor J, Blatt J, Sklar CA, Packer R, Mitby P, Robison LL, Mertens AC. Auditory complications in childhood cancer survivors: a report from the Childhood Cancer Survivor Study. *Pediatr Blood Cancer*, 2011; 57(1): 126-34.
156. Green DM, Nolan VG, Kawashima T, Stovall M, Donaldson SS, Srivastava D, Leisenring W, Robison LL, Sklar CA. Decreased fertility among female childhood cancer survivors who received 22-27 Gy hypothalamic/pituitary irradiation: a report from the Childhood Cancer Survivor Study. *Fertil Steril*, 2011; 95(6): 1922-7.
157. Termuhlen AM, Tersak JM, Liu Q, Yasui Y, Stovall M, Weathers R, Deutsch M, Sklar CA, Oeffinger KC, Armstrong GT, Robison LL, Green DM. Twenty-five-year follow-up of childhood Wilms tumor: a report from the Childhood Cancer Survivor Study. *Pediatr Blood Cancer*, 2011; 57(7): 1210-6.
158. Krull KR, Annett RD, Pan Z, Ness KK, Nathan PC, Srivastava DK, Stovall M, Robison LL, Hudson MM. Neurocognitive functioning and health-related behaviours in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Eur J Cancer*, 2011; 47(9): 1380-8.
159. Clanton NR, Klosky JL, Li C, Jain N, Srivastava DK, Mulrooney D, Zeltzer L, Stovall M, Robison LL, Krull KR. Fatigue, vitality, sleep and neurocognitive functioning in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Cancer*, 2011; 117(11): 2559-68.

160. Buchbinder D, Casillas J, Krull KR, Goodman P, Leisenring W, Recklitis C, Alderfer MA, Robison LL, Armstrong GT, Kunin-Batson A, Stuber M, Zeltzer LK. Psychological outcomes of siblings of cancer survivors: a report from the Childhood Cancer Survivor Study. *Psychooncology*, 2011; 20(12): 1259-68.
161. Stuber ML, Meeske KA, Leisenring W, Stratton K, Zeltzer LK, Dawson K, Kazak AE, Zebrack B, Mertens AC, Robison LL, Krull KR. Defining medical posttraumatic stress among young adult survivors in the Childhood Cancer Survivor Study. *Gen Hosp Psychiatry*, 2011; 33(4): 347-53.
162. Best T, Li D, Skol AD, Kirchhoff T, Jackson SA, Yasui Y, Bhatia S, Strong LC, Domcheck SM, Nathanson KL, Olopade OI, Huang RS, Mack TM, Conti DV, Offit K, Cozen W, Robison LL, Onel K. Variants at 6q21 implicated *PRDM1* in the etiology of therapy-induced second malignancies after Hodgkin's lymphoma. *Nat Med*, 2011; 17(8): 941-3.
163. Armstrong GT, Liu W, Leisenring W, Yasui Y, Hammond S, Bhatia S, Neglia JP, Stovall M, Srivastava D, Robison LL. Occurrence of multiple subsequent neoplasms in long-term survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2011; 29(22): 3056-64.
164. Armenian SH, Sun CL, Kawashima T, Arora M, Leisenring W, Sklar CA, Baker KS, Francisco L, Teh JB, Mills G, Wong FL, Rosenthal J, Diller LR, Hudson MM, Oeffinger KC, Forman SJ, Robison LL, Bhatia S. Long-term health-related outcomes in survivors of childhood cancer treated with HSCT versus conventional therapy: a report from the Bone Marrow Transplant Survivor Study (BMTSS) and the Childhood Cancer Survivor Study (CCSS). *Blood*, 2011; 118(5): 1413-20.
165. Kirchhoff AC, Krull KR, Ness KK, Armstrong GT, Park ER, Stovall M, Robison LL, Leisenring W. Physical, mental and neurocognitive status and employment outcomes in the Childhood Cancer Survivor Study cohort. *Cancer Epidemiol Biomarkers Prev*, 2011; 20(9): 1838-49.
166. Lu Q, Krull KR, Leisenring W, Owen JE, Kawashima T, Tsao JC, Zebrack B, Mertens A, Armstrong GT, Stovall M, Robison LL, Zeltzer LK. Pain in long-term adult survivors of childhood cancers and their siblings: a report from the Childhood Cancer Survivor Study. *Pain*, 2011; 152(11): 2616-24.
167. Kirchhoff AC, Krull KR, Ness KK, Park ER, Oeffinger KC, Hudson MM, Stovall M, Robison LL, Wickizer T, Leisenring W. Occupational outcomes of adult childhood cancer survivors: a report from the Childhood Cancer Survivor Study. *Cancer*, 2011; 117(13): 3033-44.
168. Cox CL, Zhu L, Finnegan L, Steen BD, Hudson MM, Robison LL, Oeffinger KC. Survivor profiles predict health behavior intent: the Childhood Cancer Survivor Study. *Psychooncology*, 2012; 21(5): 469-78.
169. Wampler MA, Galatino ML, Huang S, Gilchrist LS, Marchese VG, Morris GS, Scalzitti DA, Hudson MM, Oeffinger KC, Stovall M, Leisenring WM, Armstrong GT, Robison LL, Ness KK. Physical activity among adult survivors of childhood lower-extremity sarcoma. *J Cancer Surviv*, 2012; 6(1): 45-53.
170. DuBois SG, Goldsby R, Segal M, Woo J, Copren K, Kane JP, Pullinger CR, Matthay KK, Witte J, Lessnick SL, Robison LL, Bhatia S, Strong LC. Evaluation of polymorphisms in *EWSR1* and risk of Ewing sarcoma: a report from the Childhood Cancer Survivor Study. *Pediatr Blood Cancer*, 2012; 59(1): 52-6.
171. Kurt BA, Nolan VG, Ness KK, Neglia JP, Tersak JM, Hudson MM, Armstrong GT, Hutchinson RJ, Leisenring WM, Oeffinger KC, Robison LL, Arora M. Hospitalization rates among survivors of childhood cancer in the Childhood Cancer Survivor Study cohort. *Pediatr Blood Cancer*, 2012; 59(1): 126-32.
172. Signorello LB, Mulvihill JJ, Green DM, Munro HM, Stovall M, Weathers RE, Mertens AC, Whitton JA, Robison LL, Boice JD Jr. Congenital anomalies in the children of cancer survivors: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2012; 30(3): 239-45.
173. Green DM, Cox CL, Zhu L, Krull KR, Srivastava DK, Stovall M, Nolan VG, Ness KK, Donaldson SS, Oeffinger KC, Meacham LR, Sklar CA, Armstrong GT, Robison LL. Risk factors for obesity in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2012; 30(3): 246-55.
174. Veiga LH, Bhatti P, Ronckers CM, Sigurdson AJ, Stovall M, Smith SA, Weathers R, Leisenring W, Mertens AC, Hammond S, Neglia JP, Meadows AT, Donaldson SS, Sklar CA, Friedman DL, Robison LL, Inskip PD. Chemotherapy and thyroid cancer risk: a report from the Childhood Cancer Survivor Study. *Cancer Epidemiol Biomarkers Prev*, 2012; 21(1): 92-101.

175. Cozen W, Li D, Best T, Van Den Berg DJ, Gourraud PA, Cortessis VK, Skol AD, Mack TM, Glaser SL, Weiss LM, Nathwani BN, Bhatia S, Schumacher FR, Edlund CK, Hwang AE, Slager SL, Fredericksen ZS, Strong LC, Habermann TM, Link BK, Cerhan JR, Robison LL, Conti DV, Onel K. A genome-wide meta-analysis of nodular sclerosing Hodgkin lymphoma identifies risk loci at 6p21.32. *Blood*, 2012; 119(2): 469-75.
176. Klosky JL, Howell CR, Li Z, Foster RH, Mertens AC, Robison LL, Ness KK. Risky health behavior among adolescents in the Childhood Cancer Survivor Study cohort. *J Pediatr Psychol*, 2012; 37(6): 634-46.
177. Kahalley LS, Robinson LA, Tyc VL, Hudson MM, Leisenring W, Stratton K, Mertens AC, Zeltzer L, Robison LL, Hinds PS. Risk factors for smoking among adolescent survivors of childhood cancer: a report from the Childhood Cancer Survivorship Study. *Pediatr Blood Cancer*, 2012; 58(3): 428-34.
178. Wilson CL, Dilley K, Ness KK, Leisenring WL, Sklar CA, Kaste SC, Stovall M, Green DM, Armstrong GT, Robison LL, Kadan-Lottick NS. Fractures among long-term survivors of childhood cancer: a report from Childhood Cancer Survivor Study. *Cancer*, 2012; 118(23): 5920-8.
179. Park ER, Kirchhoff AC, Zallen JP, Weissman JP, Pajolek H, Mertens AC, Armstrong GT, Robison LL, Donelan K, Recklitis CJ, Diller LR, Kuhlthau KA. Childhood Cancer Survivor Study participants' perceptions and knowledge of health insurance coverage: implications for Affordable Care Act. *J Cancer Surviv*, 2012; 6(3): 251-9.
180. Buchbinder D, Mertens AC, Zeltzer LK, Leisenring W, Goodman P, Lown EA, Alderfer MA, Recklitis C, Oeffinger K, Armstrong GT, Hudson M, Robison LL, Casillas J. Cancer prevention and screening practices of siblings of childhood cancer survivors: a report from the Childhood Cancer Survivor Study. *Cancer Epidemiol Biomarkers Prev*, 2012; 21(7): 1078-88.
181. Kinahan KE, Sharp LK, Seidel K, Leisenring W, Didwania A, Lacouture ME, Stovall M, Haryani A, Robison LL, Krull KR. Scarring, disfigurement and quality of life in long-term survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2012; 30(20): 2466-74.
182. Henderson TO, Oeffinger KC, Whitton J, Leisenring W, Neglia J, Meadows A, Crotty C, Dubin DT, Diller L, Inskip P, Smith SA, Stovall M, Constine LS, Hammond S, Armstrong GT, Robison LL, Nathan PC. Secondary gastrointestinal cancer in childhood cancer survivors: a cohort study. *Ann Intern Med*, 2012; 156(11): 757-66.
183. Brackett J, Krull KR, Scheurer ME, Liu W, Srivastava DK, Stovall M, Merchant TE, Packer RJ, Robison LL, Okcu MF. Antioxidant enzyme polymorphisms and neuropsychological outcomes in medulloblastoma survivors: a report from the Childhood Cancer Survivor Study. *Neuro Oncol*, 2012; 14(8): 1018-25.
184. Watt TC, Inskip PD, Stratton K, Smith SA, Kry SF, Sigurdson AJ, Stovall M, Leisenring W, Robison LL, Mertens AC. Radiation-related risk of basal cell carcinoma: a report from the Childhood Cancer Survivor Study. *J Natl Cancer Inst*, 2012; 104(16): 1240-50.
185. Henderson TO, Rajaraman P, Stovall M, Constine LS, Olive A, Smith SA, Mertens A, Meadows A, Neglia JP, Hammond S, Whitton J, Inskip PD, Robison LL, Diller L. Risk factors associated with secondary sarcomas in childhood cancer survivors: a report from the Childhood Cancer Survivor Study. *Int J Radiat Oncol Biol Phys*, 2012; 84(1): 224-30.
186. Zebrack BJ, Stuber ML, Meeske KA, Phipps S, Krull KR, Liu Q, Yasui Y, Parry C, Hamilton R, Robison LL, Zeltzer LK. Perceived positive impact of cancer among long-term survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Psychooncology*, 2012; 21(6): 630-9.
187. Veiga LH, Lubin JH, Anderson H, de Vathaire F, Tucker M, Bhatti P, Schneider A, Johansson R, Inskip P, Kleinerman R, Shore R, Potters L, Holmberg E, Hawkins MM, Adams MJ, Sadetzki S, Lundell M, Sakata R, Damber L, Neta G, Ron E. A pooled analysis of thyroid cancer incidence following radiotherapy for childhood cancer. *Radiat Res*, 2012; 178(4): 365-76.
188. Cox CL, Zhu L, Hudson MM, Steen BD, Robison LL, Oeffinger KC. Survivor typologies predict medical surveillance participation: the Childhood Cancer Survivor Study. *Psychooncology*, 2013; 22(7): 1534-42.
189. Lown EA, Mertens AC, Korch RA, Leisenring W, Hudson MM, Greenfield TK, Robison LL, Zeltzer LK. Prevalence and predictors of risky and heavy alcohol consumption among adult siblings of childhood cancer survivors. *Psychooncology*, 2013; 22(5): 1134-43.

190. Zhu L, Tong X, Zhao H, Sun J, Srivastava DK, Leisenring W, Robison LL. Statistical analysis of mixed recurrent event data with application to cancer survivor study. *Stat Med*, 2013; 32(11): 1954-63.
191. Cox CL, Sherrill-Mittleman DA, Riley BB, Hudson MM, Williams LJ, Leisenring WM, Zacher MG, Robison LL. Development of a comprehensive health-related needs assessment for adult survivors of childhood cancer. *J Cancer Surviv*, 2013; 7(1): 1-19.
192. Boukheris H, Stovall M, Gilbert ES, Stratton KL, Smith SA, Weathers R, Hammond S, Mertens AC, Donaldson SS, Armstrong GT, Robison LL, Neglia JP, Inskip PD. Risk of salivary gland cancer after childhood cancer: a report from the Childhood Cancer Survivor Study. *Int J Radiat Oncol Biol Phys*, 2013; 85(3): 776-83.
193. Brinkman TM, Ullrich NJ, Zhang N, Green DM, Zeltzer LK, Lommel KM, Brouwers P, Srivastava DK, Jain N, Robison LL, Krull KR. Prevalence and predictors of prescription psychoactive medication use in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *J Cancer Surviv*, 2013; 7(1): 104-14.
194. Wilson CL, Ness KK, Neglia JP, Hammond S, Shnorhavorian M, Leisenring WL, Stovall M, Robison LL, Armstrong GT. Renal carcinoma after childhood cancer: a report from the Childhood Cancer Survivor Study. *J Natl Cancer Inst*, 2013; 105(7): 504-8.
195. Klosky JL, Hum AM, Zhang N, Ali KS, Srivastava DK, Klesges RC, Emmons KM, Ness KK, Stovall M, Robison LL, Hudson MM. Smokeless and dual tobacco use among males surviving childhood cancer: a report from the Childhood Cancer Survivor Study. *Cancer Epidemiol Biomarkers Prev*, 2013; 22(6): 1025-9.
196. Marina N, Hudson MM, Jones KE, Mulrooney DA, Avedian R, Donaldson SS, Popat R, West DW, Fisher P, Leisenring W, Stovall M, Robison LL, Ness KK. Changes in health status among aging survivors of pediatric upper and lower extremity sarcoma: a report from the Childhood Cancer Survivor Study. *Arch Phys Med Rehabil*, 2013; 94(6): 1062-73.
197. Chow EJ, Liu W, Srivastava K, Leisenring WM, Hayashi RJ, Sklar CA, Stovall M, Robison LL, Baker KS. Differential effects of radiotherapy on growth and endocrine function among acute leukemia survivors: a Childhood Cancer Survivor Study report. *Pediatr Blood Cancer*, 2013; 60(1): 110-5.
198. Kirchhoff AC, Kuhlthau K, Pajolek H, Leisenring W, Armstrong GT, Robison LL, Park ER. Employer-sponsored health insurance coverage limitations: results from the Childhood Cancer Survivor Study. *Support Care Cancer*, 2013; 21(2): 377-83.
199. Pappo AS, Armstrong GT, Liu W, Srivastava DK, McDonald A, Leisenring WM, Hammond S, Stovall M, Neglia JP, Robison LL. Melanoma as a subsequent neoplasm in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Pediatr Blood Cancer*, 2013; 60(3): 461-6.
200. Brinkman TM, Zhang N, Ullrich NJ, Brouwers P, Green DM, Srivastava DK, Zeltzer LK, Stovall M, Robison LL, Krull KR. Psychoactive medication use and neurocognitive function in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Pediatr Blood Cancer*, 2013; 60(3): 486-93.
201. Kovalchik SA, Ronckers CM, Veiga LH, Sigurdson AJ, Inskip PD, de Vathaire F, Sklar CA, Donaldson SS, Anderson H, Bhatti P, Hammond S, Leisenring WM, Mertens AC, Smith SA, Stovall M, Tucker MA, Weathers RE, Robison LL, Pfeiffer R. Absolute risk prediction of second primary thyroid cancer among 5-year survivors of childhood cancer. *J Clin Oncol*, 2013; 13(1): 119-27.
202. Steele JR, Wall M, Salkowski N, Mitby P, Kawashima T, Yeazel MW, Hudson MM, Robison LL, Mertens AC. Predictors of risk-based medical follow-up: a report from the Childhood Cancer Survivor Study. *J Cancer Surviv*, 2013; 7(3): 379-91.
203. Mueller S, Fullerton HJ, Stratton K, Leisenring W, Weathers RE, Stovall M, Armstrong GT, Goldsby RE, Packer RJ, Sklar CA, Bowers DC, Robison LL, Krull KR. Radiation, atherosclerotic risk factors, and stroke risk in survivors of pediatric cancer: a report from the Childhood Cancer Survivor Study. *Int J Radiat Oncol Biol Phys*, 2013; 86(4): 649-55.
204. Barton SE, Najita JS, Ginsburg ES, Leisenring WM, Stovall M, Weathers RE, Sklar CA, Robison LL, Diller L. Infertility, infertility treatment, and achievement of pregnancy in female survivors of childhood cancer: a report from the Childhood Cancer Survivor Study Cohort. *Lancet Oncol*, 2013; 14(9): 873-81.

205. Armstrong GT, Oeffinger KC, Chen Y, Kawashima T, Yasui Y, Leisenring W, Stovall M, Chow EJ, Sklar CA, Mulrooney DA, Mertens AC, Border W, Durand JB, Robison LL, Meacham L. Modifiable risk factors and major cardiac events among adult survivors of childhood cancer. *J Clin Oncol*, 2013; 31(29): 3673-80.
206. Brinkman TM, Zhu L, Zeltzer LK, Recklitis CJ, Kimberg C, Zhang N, Muriel AC, Stovall M, Srivastava DK, Robison LL, Krull KR. Longitudinal patterns of psychological distress in adult survivors of childhood cancer. *Br J Cancer*, 2013; 109(5): 1373-81.
207. Tong X, Zhu L, Leng C, Leisenring W, Robison LL. A general semiparametric hazards regression model: efficient estimation and structure selection. *Stat Med*, 2013; 32(28): 4980-94.
208. Klosky JL, Foster RH, Li Z, Peasant C, Howell CR, Mertens AC, Robison LL, Ness KK. Risky sexual behavior in adolescent survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Health Psychol*, 2014; 33(8): 868-77.
209. Armstrong GT, Kawashima T, Leisenring W, Stratton K, Stovall M, Hudson MM, Sklar CA, Robison LL, Oeffinger KC. Aging and risk of severe, disabling, life-threatening, and fatal events in the Childhood Cancer Survivor Study. *J Clin Oncol*, 2014; 32(12): 1218-27.
210. Patterson BC, Chen Y, Sklar CA, Neglia J, Yasui Y, Mertens A, Armstrong GT, Meadows A, Stovall M, Robison LL, Meacham LR. Growth hormone exposure as a risk factor for the development of subsequent neoplasms of the central nervous system: a report from the Childhood Cancer Survivor Study. *J Clin Endocrinol Metab*, 2014; 99(6): 2030-7.
211. Mertens AC, Brand S, Ness KK, Li Z, Mitby PA, Riley A, Patenaude AF, Zeltzer L. Health and well-being in adolescent survivors of early childhood cancer: a report from the Childhood Cancer Survivor Study. *Psychooncology*, 2014; 23(3): 266-75.
212. Gramatges MM, Liu Q, Yasui Y, Okcu MF, Neglia JP, Strong LC, Armstrong GT, Robison LL, Bhatia S. Telomere content and risk of second malignant neoplasm in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Clin Cancer Res*, 2014; 20(4): 904-11.
213. Green DM, Nolan VG, Goodman PJ, Whitton JA, Srivastava D, Leisenring WM, Neglia JP, Sklar CA, Kaste SC, Hudson MM, Diller LR, Stovall M, Donaldson SS, Robison LL. The cyclophosphamide equivalent dose as an approach for quantifying alkylating agent exposure: a report from the Childhood Cancer Survivor Study. *Pediatr Blood Cancer*, 2014; 61(1): 53-67.
214. Huang TT, Chen Y, Dietz AC, Yasui Y, Donaldson SS, Stokes DC, Stovall M, Leisenring WM, Sklar CA, Diller LR, Mertens AC, Armstrong GT, Green DM, Robison LL, Ness KK. Pulmonary outcomes in survivors of childhood central nervous system malignancies: a report from the Childhood Cancer Survivor Study. *Pediatr Blood Cancer*, 2014; 61(2): 319-25.
215. Klosky JL, Krull KR, Kawashima T, Leisenring W, Randolph ME, Zebrack B, Stuber ML, Robison LL, Phipps S. Relations between posttraumatic stress and posttraumatic growth in long-term survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Health Psychol*, 2014; 33(8): 878-82.
216. Brinkman TM, Zhang N, Recklitis CJ, Kimberg C, Zeltzer LK, Muriel AC, Stovall M, Srivastava DK, Sklar CA, Robison LL, Krull KR. Suicide ideation and associated mortality in adult survivors of childhood cancer. *Cancer*, 2014; 120(2): 271-7.
217. Schultz KA, Chen L, Chen Z, Kawashima T, Oeffinger KC, Woods WG, Nicholson HS, Neglia JP. Health conditions and quality of life in survivors of childhood acute myeloid leukemia comparing post remission chemotherapy to BMT: a report from the Children's Oncology Group. *Pediatr Blood Cancer*, 2014; 61(4): 729-36.
218. Perkins JL, Chen Y, Harris A, Diller L, Stovall M, Armstrong GT, Yasui Y, Robison LL, Sklar CA. Infections among long-term survivors of childhood and adolescent cancer: a report from the Childhood Cancer Survivor Study. *Cancer*, 2014; 120(16): 2514-21.
219. Nolan VG, Krull KR, Gurney JG, Leisenring W, Robison LL, Ness KK. Predictors of future health-related quality of life in survivors of adolescent cancer. *Pediatr Blood Cancer*, 2014; 61(10): 1891-4.

220. Moskowitz CS, Chou JF, Wolden SL, Bernstein JL, Malhotra J, Novetsky Friedman D, Mubdi NZ, Leisenring WM, Stovall M, Hammond S, Smith SA, Henderson TO, Boice JD, Hudson MM, Diller LR, Bhatia S, Kenney LB, Neglia JP, Begg CB, Robison LL, Oeffinger KC. Breast cancer after chest radiation therapy for childhood cancer. *J Clin Oncol*, 2014; 32(21): 2217-23.
221. Cox CL, Nolan VG, Leisenring W, Yasui Y, Ogg SW, Mertens AC, Neglia JP, Ness KK, Armstrong GT, Robison LL. Noncancer-related mortality risks in adult survivors of pediatric malignancies: the Childhood Cancer Survivor Study. *J Cancer Surviv*, 2014; 8(3): 460-71.
222. Wong FL, Bhatia S, Landier W, Francisco L, Leisenring W, Hudson MM, Armstrong GT, Mertens A, Stovall M, Robison LL, Lyman GH, Lipshultz SE, Armenian SH. Cost-effectiveness of the Children's Oncology Group Long-Term Follow-Up screening guidelines for childhood cancer survivors at risk for treatment-related heart failure. *Ann Intern Med*, 2014; 160(10): 672-83.
223. Wasilewski-Masker K, Seidel KD, Leisenring W, Mertens AC, Shnorhavorian M, Ritenour CW, Stovall M, Green DM, Sklar CA, Armstrong GT, Robison LL, Meacham LR. Male infertility in long-term survivors of pediatric cancer: a report from the Childhood Cancer Survivor Study. *J Cancer Surviv*, 2014; 8(3): 437-47.
224. Zhu L, Tong X, Sun J, Chen M, Srivastava DK, Leisenring W, Robison LL. Regression analysis of mixed recurrent-event and panel-count data. *Biostatistics*, 2014; 15(3): 555-68.
225. Cozen W, Timofeeva MN, Li D, Diepstra A, Hazelett D, Delahaye-Sourdeix M, Edlund CK, Franke L, Rostgaard K, Van Den Berg DJ, Cortessis VK, Smedby KE, Glaser SL, Westra HJ, Robison LL, Mack TM, Ghesquieres H, Hwang AE, Nieters A, de Sanjose S, Lightfoot T, Becker N, Maynadie M, Foretova L, Roman E, Benavente Y, Rand KA, Nathwani BN, Glimelius B, Staines A, Boffetta P, Link BK, Kiemeny L, Ansell SM, Bhatia S, Strong LC, Galan P, Vatten L, Habermann TM, Duell EJ, Lake A, Veenstra RN, Visser L, Liu Y, Urayama KY, Montgomery D, Gaborieau V, Weiss LM, Byrnes G, Lathrop M, Cocco P, Best T, Skol AD, Adami HO, Melbye M, Cerhan JR, Gallagher A, Taylor GM, Slager SL, Brennan P, Coetzee GA, Conti DV, Onel K, Jarrett RF, Hjalgrim H, van den Berg A, McKay JD. A Meta-analysis of Hodgkin lymphoma reveals 19p13.3 *TCF3* as a novel susceptibility locus. *Nat Commun*, 2014; 5: 3856.
226. Wilson CL, Stratton K, Leisenring WL, Oeffinger KC, Nathan PC, Wasilewski-Masker K, Hudson MM, Castellino SM, Stovall M, Armstrong GT, Brinkman TM, Krull KR, Robison LL, Ness KK. Decline in physical activity level in the Childhood Cancer Survivor Study cohort. *Cancer Epidemiol Biomarkers Prev*, 2014; 23(8): 1619-27.
227. Ford JS, Kawashima T, Whitton J, Leisenring W, Laverdière C, Stovall M, Zeltzer L, Robison LL, Sklar CA. Psychosexual functioning among adult female survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2014; 32(28): 3126-36.
228. Mertens AC, Liu W, Ness KK, McDonald A, Hudson MM, Wasilewski-Masker K, Bhatia S, Nathan PC, Leonard M, Srivastava K, Robison LL, Green DM. Factors associated with recruiting adult survivors of childhood cancer into clinic-based research. *Pediatr Blood Cancer*, 2014; 61(10): 1846-51.
229. Essig S, Li Q, Chen Y, Hitzler J, Leisenring W, Greenberg M, Sklar C, Hudson MM, Armstrong GT, Krull KR, Neglia JP, Oeffinger KC, Robison LL, Kuehni CE, Yasui Y, Nathan PC. Risk of late effects of treatment in children newly diagnosed with standard-risk acute lymphoblastic leukemia: a report from the Childhood Cancer Survivor Study cohort. *Lancet Oncol*, 2014; 15(8): 841-51.
230. Jones LW, Liu Q, Armstrong GT, Ness KK, Yasui Y, Devine K, Tonorezos E, Soares-Miranda L, Sklar CA, Douglas PS, Robison LL, Oeffinger KC. Exercise and risk of major cardiovascular events in adult survivors of childhood Hodgkin lymphoma: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2014; 32(32): 3643-50.
231. Hudson MM, Leisenring W, Stratton KK, Tinner N, Steen BD, Ogg S, Barnes L, Oeffinger KC, Robison LL, Cox CL. Increasing cardiomyopathy screening in at-risk adult survivors of pediatric malignancies: a randomized controlled trial. *J Clin Oncol*, 2014; 32(35): 3974-81.
232. Armstrong GT, Ross JD. Late cardiotoxicity in aging adult survivors of childhood cancer. *Prog Pediatr Cardiol*, 2014; 36(1-2): 19-26.

233. Tsui K, Gajjar A, Li C, Srivastava D, Broniscer A, Wetmore C, Kun LE, Merchant TE, Ellison DW, Orr BA, Boop FA, Klimo P, Ross J, Robison LL, Armstrong GT. Subsequent neoplasms in survivors of childhood central nervous system tumors: risk after modern multimodal therapy. *Neuro Oncol*, 2015; 17(3): 448-56.
234. Yang XR, Killian JK, Hammond S, Burke LS, Bennett H, Wang Y, Davis SR, Strong LC, Neglia J, Stovall M, Weathers RE, Robison LL, Bhatia S, Mabuchi K, Inskip PD, Meltzer P. Characterization of genomic alterations in radiation-related breast cancer among childhood cancer survivors, using comparative genomic hybridization (CGH) arrays. *PLOS ONE*, 2015; 10(3): e0116078.
235. Klesges RC, Krukowski RA, Klosky JL, Liu W, Srivastava DK, Boyett JM, Lanctot JQ, Hudson MM, Folsom C, Robison LL. Efficacy of a tobacco quitline among adult survivors of childhood cancer. *Nicotine Tob Res*, 2015; 17(6): 710-8.
236. Gawade PL, Oeffinger KC, Sklar CA, Green DM, Krull KR, Chemaitilly W, Stovall M, Leisenring W, Armstrong GT, Robison LL, Ness KK. Lifestyle, distress and pregnancy outcomes in the Childhood Cancer Survivor Study cohort. *Am J Obstet Gynecol*, 2015; 212(1): 47.e1-10.
237. Chow EJ, Chen Y, Kremer LC, Breslow NE, Hudson MM, Armstrong GT, Border WL, Feijen EA, Green DM, Meacham LR, Meeske KA, Mulrooney DA, Ness KK, Oeffinger KC, Sklar CA, Stovall M, van der Pal HJ, Weathers RE, Robison LL, Yasui Y. Individual prediction of heart failure among childhood cancer survivors. *J Clin Oncol*, 2015; 33(5): 394-402.
238. Zhu L, Zhao H, Sun J, Leisenring W, Robison LL. Regression analysis of mixed recurrent-event and panel-count data with additive rate models. *Biometrics*, 2015; 71(1): 71-79.
239. Kenzik KM, Huang IC, Brinkman TM, Baughman B, Ness KK, Shenkman EA, Hudson MM, Robison LL, Krull KR. The Childhood Cancer Survivor Study-Neurocognitive Questionnaire (CCSS-NCQ) revised: item response analysis and concurrent validity. *Neuropsychology*, 2015; 29(1): 31-44.
240. Dong H, Robison LL, Leisenring WM, Martin LJ, Armstrong GT, Yasui Y. Estimating the burden of recurrent events in the presence of competing risks: the method of mean cumulative count. *Am J Epidemiol*, 2015; 181(7): 532-40.
241. Hudson MM, Oeffinger KC, Jones K, Brinkman TM, Krull KR, Mulrooney DA, Mertens A, Castellino SM, Casillas J, Gurney JG, Nathan PC, Leisenring W, Robison LL, Ness KK. Age-dependent changes in health status in the Childhood Cancer Survivor cohort. *J Clin Oncol*, 2015; 33(5): 479-91.
242. Mertens AC, Yong J, Dietz AC, Kreiter E, Yasui Y, Bleyer A, Armstrong GT, Robison LL, Wasilewski-Masker K. Conditional survival in pediatric malignancies: analysis of data from the Childhood Cancer Survivor Study and the surveillance, epidemiology and end results program. *Cancer*, 2015; 121(7): 1108-17.
243. Park ER, Kirchhoff AC, Perez GK, Leisenring W, Weissman JS, Donelan K, Mertens AC, Reschovsky JD, Armstrong GT, Robison LL, Franklin M, Hyland KA, Diller LR, Recklitis CJ, Kuhlthau KA. Childhood Cancer Survivor Study participants' perceptions and understanding of the Affordable Care Act. *J Clin Oncol*, 2015; 33(7): 764-72.
244. Casillas J, Oeffinger KC, Hudson MM, Greenberg ML, Yeazel MW, Ness KK, Henderson TO, Robison LL, Armstrong GT, Liu Q, Leisenring W, Yasui Y, Nathan PC. Identifying predictors of longitudinal decline in the level of medical care received by adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Health Serv Res*, 2015; 50(4): 1021-42.
245. Daniel CL, Kohler CL, Stratton KL, Oeffinger KC, Leisenring WM, Waterbor JW, Whelan KF, Armstrong GT, Henderson TO, Krull KR, Robison LL, Nathan PC. Predictors of colorectal cancer surveillance among childhood cancer treated with radiation: a report from the Childhood Cancer Survivor Study. *Cancer*, 2015; 121(11): 1856-63.
246. Bhatia S, Armenian SH, Armstrong GT, van Dulmen-den Broeder E, Hawkins MM, Kremer LC, Keuhni CE, Olsen JH, Robison LL, Hudson MM. Collaborative research in childhood cancer survivorship: the current landscape. *J Clin Oncol*, 2015; 33(27): 3055-64.

247. Phillips SM, Padgett LS, Leisenring WM, Stratton KK, Bishop K, Krull KR, Alfano CM, Gibson TM, de Moor JS, Hartigan DB, Armstrong GT, Robison LL, Rowland JH, Oeffinger KC, Mariotto AB. Survivors of childhood cancer in the United States: prevalence and burden of morbidity. *Cancer Epidemiol Biomarkers Prev*, 2015; 24(4): 653-63.
248. Kirchhoff AC, Parsons HM, Kuhlthau KA, Leisenring W, Donelan K, Warner EL, Armstrong GT, Robison LL, Oeffinger KC, Park ER. Supplemental security income and social security disability insurance coverage among long-term childhood cancer survivors. *J Natl Cancer Inst*, 2015; 107(6).
249. Daniel CL, Armstrong GT, Keske RR, Davine JA, McDonald AJ, Sprunck-Harrild KM, Coleman C, Haneuse SJ, Mertens AC, Emmons KM, Marghoob AA, Elkin EB, Dusza SW, Robison LL, Geller AC. Advancing Survivors' Knowledge (ASK) about skin cancer study: study protocol for a randomized controlled trial. *Trials*, 2015; 16: 109.
250. Prasad PK, Hardy KK, Zhang N, Edelstein K, Srivastava D, Zeltzer L, Stovall M, Seibel NL, Leisenring W, Armstrong GT, Robison LL, Krull K. Psychosocial and neurocognitive outcomes in adult survivors of adolescent and early young adult cancer: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2015; 33(23): 2545-52.
251. Turcotte LM, Whitton JA, Friedman DL, Hammond S, Armstrong GT, Leisenring W, Robison LL, Neglia JP. Risk of subsequent neoplasms in the fifth and sixth decades of life in the Childhood Cancer Survivor Study cohort. *J Clin Oncol*, 2015; 33(31): 3568-75.
252. Madenci AL, Fisher S, Diller LR, Goldsby RE, Leisenring WM, Oeffinger KC, Robison LL, Sklar CA, Stovall M, Weathers RE, Armstrong GT, Yasui Y, Weldon CB. Intestinal obstruction in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2015; 33(26): 2893-900.
253. Fullerton HJ, Stratton K, Mueller S, Leisenring WW, Armstrong GT, Weathers RE, Stovall M, Sklar CA, Goldsby RE, Robison LL, Krull KR. Recurrent stroke in childhood cancer survivors. *Neurology*, 2015; 85(12): 1056-64.
254. Feijen EA, Leisenring WM, Stratton KL, Ness KK, van der Pal HJ, Caron HN, Armstrong GT, Green DM, Hudson MM, Oeffinger KC, Robison LL, Stovall M, Kremer LC, Chow EJ. Equivalence ratio for daunorubicin to doxorubicin in relation to late heart failure in childhood cancer survivors. *J Clin Oncol*, 2015; 33(32): 3774-80.
255. Gibson TM, Liu W, Armstrong GT, Srivastava DK, Hudson MM, Leisenring WM, Mertens AC, Klesges RC, Oeffinger KC, Nathan PC, Robison LL. Longitudinal smoking patterns in survivors of childhood cancer: an update from the Childhood Cancer Survivor Study. *Cancer*, 2015; 121(22): 4035-43.
256. Grünewald TG, Bernard V, Gilardi-Hebenstreit P, Raynal V, Surdez D, Aynaud MM, Mirabeau O, Cidre-Aranaz F, Tirode F, Zaidi S, Perot G, Jonker AH, Lucchesi C, Le Deley MC, Oberlin O, Marec-Bérard P, Véron AS, Reynaud S, Lapouble E, Boeva V, Rio Frio T, Alonso J, Bhatia S, Pierron G, Cancel-Tassin G, Cussenot O, Cox DG, Morton LM, Machiela MJ, Chanock SJ, Charnay P, Delattre O. Chimeric EWSR1-FLI1 regulates the Ewing sarcoma susceptibility gene EGR2 via a GGAA microsatellite. *Nat Genet*, 2015; 47(9): 1073-8.
257. Moskowitz CS, Malhotra J, Chou JF, Wolden SL, Weathers RE, Stovall M, Armstrong GT, Leisenring WM, Neglia JP, Robison LL, Oeffinger KC. Breast cancer following spinal irradiation for a childhood cancer: a report from the Childhood Cancer Survivor Study. *Radiother Oncol*, 2015; 117(2): 213-6.
258. Rosenberg SM, Moskowitz CS, Ford JS, Henderson TO, Frazier AL, Diller LR, Hudson MM, Stanton AL, Chou JF, Smith S, Leisenring WM, Mertens AC, Cox CL, Nathan PC, Krull KR, Robison LL, Oeffinger KC. Health care utilization, lifestyle, and emotional factors and mammography practices in the Childhood Cancer Survivor Study. *Cancer Epidemiol Biomarkers Prev*, 2015; 24(11): 1699-706.
259. Ford JS, Chou JF, Sklar CA, Oeffinger KC, Novetsky-Friedman D, McCabe M, Robison LL, Kleinerman RA, Li Y, Marr BP, Abramson DH, Dunkel IJ. Psychosocial outcomes in adult survivors of retinoblastoma. *J Clin Oncol*, 2015; 33(31): 3608-14.
260. Inskip PD, Sigurdson AJ, Veiga L, Bhatti P, Ronckers C, Rajaraman P, Boukeris H, Stovall M, Smith S, Hammond S, Henderson TO, Watt TC, Mertens AC, Leisenring W, Stratton K, Whitton J, Donaldson SS, Armstrong GT, Robison LL, Neglia JP. Radiation-related new primary solid cancers in the Childhood Cancer Survivor Study: comparative radiation dose response and modification of treatment effects. *Int J Radiat Oncol Biol Phys*, 2016; 94(4): 800-7.

261. de Blank PM, Fisher MJ, Lu L, Leisenring WM, Ness KK, Sklar CA, Stovall M, Vukadinovich C, Robison LL, Armstrong GT, Krull KR. Impact of vision loss among survivors of childhood central nervous system astroglial tumors. *Cancer*, 2016; 122(5): 730-9.
262. Buchbinder D, Oeffinger K, Franco-Villalobos C, Yasui Y, Alderfer MA, Armstrong GT, Casillas J, Ford J, Krull KR, Leisenring W, Recklitis C, Robison LL, Zeltzer LK, Lown EA. Tobacco use among siblings of childhood cancer survivors: a report from the Childhood Cancer Survivor Study. *Pediatr Blood Cancer*, 2016; 63(2): 326-33.
263. Henderson TO, Moskowitz CS, Chou JF, Bradbury AR, Neglia JP, Dang CT, Onel K, Novetsky Friedman D, Bhatia S, Strong LC, Stovall M, Kenney LB, Barnea D, Lorenzi E, Hammond S, Leisenring WM, Robison LL, Armstrong GT, Diller LR, Oeffinger KC. Breast cancer risk in childhood cancer survivors without a history of chest radiotherapy: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2016; 34(9): 910-8.
264. Armstrong GT, Chen Y, Yasui Y, Leisenring W, Gibson TM, Mertens AC, Stovall M, Oeffinger KC, Bhatia S, Krull KR, Nathan PC, Neglia JP, Green DM, Hudson MM, Robison LL. Reduction in late mortality among 5-year survivors of childhood cancer. *N Engl J Med*, 2016; 374(9): 833-42.
265. Chow EJ, Stratton KL, Leisenring WM, Oeffinger KC, Sklar CA, Donaldson SS, Ginsberg JP, Kenney LB, Levine JM, Robison LL, Shnorhavorian M, Stovall M, Armstrong GT, Green DM. Pregnancy after chemotherapy in male and female survivors of childhood cancer treated between 1970 and 1999: a report from the Childhood Cancer Survivor Study cohort. *Lancet Oncol*, 2016; 17(5): 567-76.
266. Friedman DN, Chou JF, Oeffinger KC, Kleiner RA, Ford JS, Sklar CA, Li Y, McCabe MS, Robison LL, Marr BP, Abramson DH, Dunkel IJ. Chronic medical conditions in adult survivors of retinoblastoma: results of the retinoblastoma survivor study. *Cancer*, 2016; 122(5): 773-81.
267. Cox CL, Zhu L, Ojha RP, Li C, Srivastava DK, Riley BB, Hudson MM, Robison LL. The unmet emotional, care/support, and informational needs of adult survivors of pediatric malignancies. *J Cancer Surviv*, 2016; 10(4): 743-58.
268. Liu Q, Leisenring WM, Ness KK, Robison LL, Armstrong GT, Yasui Y, Bhatia S. Racial/ethnic differences in adverse outcomes among childhood cancer survivors: the Childhood Cancer Survivor Study. *J Clin Oncol*, 2016; 34(14): 1634-43.
269. Zhou R, Ng A, Constine LS, Stovall M, Armstrong GT, Neglia JP, Friedman DL, Kelly K, Fitzgerald TJ, Hodgson DC. A comparative evaluation of normal tissue doses for patients receiving radiation therapy for Hodgkin lymphoma on the Childhood Cancer Survivor Study and recent Children's Oncology Group trials. *Int J Radiat Oncol Biol Phys*, 2016; 95(2): 707-11.
270. Yeh JM, Hanmer J, Ward Z, Leisenring WM, Armstrong GT, Hudson MM, Stovall M, Robison LL, Oeffinger KC, Diller L. Chronic conditions and utility-based health-related quality of life in adult childhood cancer survivors. *J Natl Cancer Inst*, 2016; 108(9): djw046.
271. Chodick G, Sigurdson AJ, Kleiner RA, Sklar CA, Leisenring W, Mertens AC, Stovall M, Smith SA, Weathers RE, Veiga LH, Robison LL, Inskip PD. The risk of cataract among survivors of childhood and adolescent cancer: a report from the Childhood Cancer Survivor Study. *Radiat Res*, 2016; 185(4): 366-74.
272. Cox CL, Andersen MR, Santucci AK, Robison LL, Hudson MM. Increasing cardiomyopathy screening in childhood cancer: a cost analysis of advanced practice nurse phone counseling. *Oncol Nurs Forum*, 2016; 43(6): E242-E250.
273. Ritenour CW, Seidel KD, Leisenring W, Mertens AC, Wasilewski-Masker K, Shnorhavorian M, Sklar CA, Whitton JA, Stovall M, Constine LS, Armstrong GT, Robison LL, Meacham LR. Erectile dysfunction in male survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *J Sex Med*, 2016; 13(6): 945-54.
274. Bhatia S, Gibson TM, Ness KK, Liu Q, Oeffinger KC, Krull KR, Nathan PC, Neglia JP, Leisenring W, Yasui Y, Robison LL, Armstrong GT. Childhood cancer survivorship research in minority populations: a position paper from the Childhood Cancer Survivor Study. *Cancer*, 2016; 122(15): 2426-39.

275. Lown EA, Hijiya N, Zhang N, Srivastava DK, Leisenring WM, Nathan PC, Castellino SM, Devine KA, Dilley K, Krull KR, Oeffinger KC, Hudson MM, Armstrong GT, Robison LL, Ness KK. Patterns and predictors of clustered risky health behaviors among adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Cancer*, 2016; 122(17): 2747-56.
276. D'Agostino NM, Edelstein K, Zhang N, Recklitis CJ, Brinkman TM, Srivastava D, Leisenring WM, Robison LL, Armstrong GT, Krull KR. Comorbid symptoms of emotional distress in adult survivors of childhood cancer. *Cancer*, 2016; 122(20): 3215-3224.
277. Brinkman TM, Li C, Vannatta K, Marchak JG, Lai JS, Prasad PK, Kimberg C, Vuotto S, Di C, Srivastava D, Robison LL, Armstrong GT, Krull KR. Behavioral, social, and emotional symptom comorbidities and profiles in adolescent survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2016; 34(28): 3417-25.
278. Mostoufi-Moab S, Seidel K, Leisenring WM, Armstrong GT, Oeffinger KC, Stovall M, Meacham LR, Green DM, Weathers R, Ginsberg JP, Robison LL, Sklar CA. Endocrine abnormalities in aging survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2016; 34(27): 3240-7.
279. Veiga LH, Holmberg E, Anderson H, Pottern L, Sadetzki S, Adams MJ, Sakata R, Schneider AB, Inskip P, Bhatti P, Johansson R, Neta G, Shore R, de Vathaire F, Damber L, Kleinerman R, Hawkins MM, Tucker M, Lundell M, Lubin JH. Thyroid cancer after childhood exposure to external radiation: an updated pooled analysis of 12 studies. *Radiat Res*, 2016; 185(5): 473-84.
280. Dietz AC, Chen Y, Yasui Y, Ness KK, Hagood JS, Chow EJ, Stovall M, Neglia JP, Oeffinger KC, Mertens AC, Robison LL, Armstrong GT, Mulrooney DA. Risk and impact of pulmonary complications in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Cancer*, 2016; 122(23): 3687-3696.
281. Jacola LM, Edelstein K, Liu W, Pui CH, Hayashi R, Kaden-Lottick NS, Srivastava D, Henderson T, Leisenring W, Robison LL, Armstrong GT, Krull KR. Cognitive, behavior, and academic functioning in adolescent and young adult survivors of childhood acute lymphoblastic leukemia: a report from the Childhood Cancer Survivor Study. *Lancet Psychiatry*, 2016; 3(10): 965-972.
282. Khankhanian P, Cozen W, Himmelstein DS, Madireddy L, Din L, van den Berg A, Matsushita T, Glaser SL, Moré JM, Smedby KE, Baranzini SE, Mack TM, Lizée A, de Sanjosé S, Gourraud PA, Nieters A, Hauser SL, Cocco P, Maynadié M, Foretová L, Staines A, Delahaye-Sourdeix M, Li D, Bhatia S, Melbye M, Onel K, Jerrett R, McKay JD, Okesenberg JR, Hjalgrim H. Meta-analysis of genome-wide association studies reveals genetic overlap between Hodgkin lymphoma and multiple sclerosis. *Int J Epidemiol*, 2016; 45(3): 728-40.
283. Vuotto SC, Krull KR, Li C, Oeffinger KC, Green DM, Patel SK, Srivastava D, Stovall M, Ness KK, Armstrong GT, Robison LL, Brinkman TM. Impact of chronic disease on emotional distress in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Cancer*, 2017; 123(3): 521-528.
284. Ness KK, Hudson MM, Jones KE, Leisenring W, Yasui Y, Chen Y, Stovall M, Gibson TM, Green DM, Neglia JP, Henderson TO, Casillas J, Ford JS, Effinger KE, Krull KR, Armstrong GT, Robison LL, Oeffinger KC, Nathan PC. Effects of temporal changes in therapeutic exposure on self-reported health status in childhood cancer survivors. *Ann Intern Med*, 2017; 166(2): 89-98.
285. King AA, Seidel K, Di C, Leisenring WM, Perkins SM, Krull KR, Sklar CA, Green DM, Armstrong GT, Zeltzer LK, Wells E, Stovall M, Ullrich N, Oeffinger KC, Robison LL, Packer RJ. Long-term neurologic health and psychosocial function of adult survivors of childhood medulloblastoma/PNET: a report from the Childhood Cancer Survivor Study. *Neuro Oncol*, 2017; 19(5): 689-698.
286. Caplin DA, Smith KR, Ness KK, Hanson HA, Smith SM, Nathan PC, Hudson MM, Leisenring WM, Robison LL, Oeffinger KC. Effects of population socioeconomic and health system factors on medical care for childhood cancer survivors: a report from the Childhood Cancer Survivor Study. *J Adolesc Young Adult Oncol*, 2017; 6(1): 74-82.
287. Sherborne AL, Lavergne V, Yu K, Lee L, Davidson PR, Mazor T, Smirnoff IV, Horvai AE, Loh M, DuBois SG, Goldsby RE, Neglia J, Hammond S, Robison LL, Wustrack R, Costello JF, Nakamura AO, Shannon KM, Bhatia S, Nakamura JL. Somatic and germline TP53 alterations in second malignant neoplasms from pediatric cancer survivors. *Clin Cancer Res*, 2017; 23(7): 1852-1861.

288. Rach AM, Crabtree VM, Brinkman TM, Zeltzer L, Marchak JG, Srivastava D, Tynes B, Lai JS, Robison LL, Armstrong GT, Krull KR. Predictors of fatigue and poor sleep in adult survivors of childhood Hodgkin's lymphoma: a report from the Childhood Cancer Survivor Study. *J Cancer Surviv*, 2017; 11(2): 256-263.
289. Cox CL, Zhu L, Ojha RP, Steen BD, Ogg S, Robison LL, Hudson MM. Factors supporting cardiomyopathy screening among at-risk adult survivors of pediatric malignancies. *Support Care Cancer*, 2017; 25(4): 1307-1316.
290. Huang IC, Brinkman TM, Armstrong GT, Leisenring W, Robison LL, Krull KR. Emotional distress impacts quality of life evaluation: a report from the Childhood Cancer Survivor Study. *J Cancer Surviv*, 2017; 11(3): 309-319.
291. Marina NM, Liu Q, Donaldson SS, Sklar CA, Armstrong GT, Oeffinger KC, Leisenring W, Ginsberg JP, Henderson TO, Neglia JP, Stovall MA, Yasui Y, Randall RL, Geller DS, Robison LL, Ness KK. Longitudinal follow-up of adult survivors of Ewing sarcoma: a report from the Childhood Cancer Survivor Study (CCSS). *Cancer*, 2017; 123(13): 2551-2560.
292. Bowers DC, Moskowitz CS, Chou JF, Mazewski CM, Neglia JP, Armstrong GT, Leisenring W, Robison LL, Oeffinger KC. Morbidity and mortality associated with meningioma after cranial radiotherapy: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2017; 35(14): 1570-1576.
293. Yu G, Zhu L, Li Y, Sun J, Robison LL. Regression analysis of mixed panel count data with dependent terminal events. *Stat Med*, 2017; 36(10): 1669-1680.
294. Morton LM, Sampson JN, Armstrong GT, Chen TH, Hudson MM, Karlins E, Dagnall CL, Li SA, Wilson CL, Srivastava DK, Liu W, Kang G, Oeffinger KC, Henderson TO, Moskowitz CS, Gibson TM, Merino DM, Wong JR, Hammond S, Neglia JP, Turcotte LM, Miller J, Bowen L, Wheeler WA, Leisenring WM, Whitton JA, Burdette L, Chung C, Hicks BD, Jones K, Machiela MJ, Vogt A, Wang Z, Yeager M, Neale G, Lear M, Strong LC, Yasui Y, Stovall M, Weathers RE, Smith SA, Howell R, Davies SM, Radloff GA, Onel K, Berrington de González A, Inskip PD, Rajaraman P, Fraumeni JF Jr, Bhatia S, Chanock SJ, Tucker MA, Robison LL. Genome-wide association study identifies susceptibility loci that modify radiation-related risk for breast cancer after childhood cancer. *J Natl Cancer Inst*, 2017; 109(11).
295. Lubin JH, Adams MJ, Shore R, Holmberg E, Schneider AB, Hawkins MM, Robison LL, Inskip PD, Lundell M, Johansson R, Kleinerman RA, de Vathaire F, Damber L, Sadetzki S, Tucker M, Sakata R, Veiga LHS. Thyroid cancer following childhood low-dose radiation exposure: a pooled analysis of nine cohorts. *J Clin Endocrinol Metab*, 2017; 102(7): 2575-2583.
296. Turcotte LM, Liu Q, Yasui Y, Arnold MA, Hammond S, Howell RM, Smith SA, Weathers RE, Henderson TO, Gibson TM, Leisenring W, Armstrong GT, Robison LL, Neglia JP. Temporal trends in treatment and subsequent neoplasm risk among 5-year survivors of childhood cancer, 1970-2015. *JAMA*, 2017; 317(8): 814-824.
297. Moskowitz CS, Chou JF, Sklar CA, Barnea D, Ronckers CM, Friedman DN, Neglia JP, Turcotte L, Howell RM, Henderson TO, Armstrong GT, Leisenring WM, Robison LL, van Leeuwen FE, Pike MC, Oeffinger KC. Radiation-associated breast cancer and gonadal hormone exposure: a report from the Childhood Cancer Survivor Study. *Br J Cancer*, 2017; 117(2): 290-299.
298. Nipp RD, Kirchhoff AC, Fair D, Rabin J, Hyland K, Kuhlthau K, Perez GK, Robison LL, Armstrong GT, Nathan PC, Oeffinger KC, Leisenring W, Park ER. Financial burden in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2017; 35(30): 3474-3481.
299. Park ER, Kirchhoff AC, Nipp RD, Donelan K, Leisenring WM, Armstrong GT, Kuhlthau KA. Assessing health insurance coverage characteristics and impact on health care costs, worry and access: a report from the Childhood Cancer Survivor Study. *JAMA Intern Med*, 2017; 177(12): 1855-1858.
300. Yu G, Zhu L, Sun J, Robison LL. Regression analysis of incomplete data from event history studies with the proportional rates model. *Stat Interface*, 2018; 11(1): 91-97.
301. Wells EM, Ullrich NJ, Seidel K, Leisenring W, Sklar CA, Armstrong GT, Diller L, King A, Krull KR, Neglia JP, Stovall M, Whelan K, Oeffinger KC, Robison LL, Packer RJ. Longitudinal assessment of late-onset neurologic conditions in survivors of childhood central nervous system tumors: a Childhood Cancer Survivor Study report. *Neuro Oncol*, 2018; 20(1): 132-142.

302. Kirchhoff AC, Nipp R, Warner EL, Kuhlthau K, Leisenring WM, Donelan K, Rabin J, Perez GK, Oeffinger KC, Nathan PC, Robison LL, Armstrong GT, Park ER. "Job lock" among long-term survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *JAMA Oncol*, 2018; 4(5): 707-711.
303. Devine KA, Mertens AC, Whitton JA, Wilson CL, Ness KK, Gilleland Marchak J, Leisenring W, Oeffinger KC, Robison LL, Armstrong GT, Krull KR. Factors associated with physical activity among adolescent and young adult survivors of early childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). *Psychooncology*, 2018; 27(2): 613-619.
304. Goldsby RE, Stratton KL, Raber S, Ablin A, Strong LC, Oeffinger K, Sklar CA, Armstrong GT, Robison LL, Bhatia S, Leisenring WM. Long-term sequelae in survivors of childhood leukemia with Down syndrome: a Childhood Cancer Survivor Study report. *Cancer*, 2018; 124(3): 617-625.
305. Chow EJ, Chen Y, Hudson MM, Feijen EAM, Kremer LC, Border WL, Green DM, Meacham LR, Mulrooney DA, Ness KK, Oeffinger KC, Ronckers CM, Sklar CA, Stovall M, van der Pal HJ, van Dijk IWEM, van Leeuwen FE, Weathers RE, Robison LL, Armstrong GT, Yasui Y. Prediction of ischemic heart disease and stroke in survivors of childhood cancer. *J Clin Oncol*, 2018; 36(1): 44-52.
306. Cheung YT, Brinkman TM, Li C, Mzayek Y, Srivastava D, Ness KK, Patel SK, Howell RM, Oeffinger KC, Robison LL, Armstrong GT, Krull KR. Chronic health conditions and neurocognitive function in aging survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *J Natl Cancer Inst*, 2018; 110(4): 411-419.
307. Levine JM, Whitton JA, Ginsberg JP, Green DM, Leisenring WM, Stovall M, Robison LL, Armstrong GT, Sklar CA. Nonsurgical premature menopause and reproductive implications in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Cancer*, 2018; 124(5): 1044-1052.
308. Brooke RJ, Im C, Wilson CL, Krasin MJ, Liu Q, Li Z, Sapkota Y, Moon W, Morton LM, Wu G, Wang Z, Chen W, Howell RM, Armstrong GT, Bhatia S, Mostoufi-Moab S, Seidel K, Chanock SJ, Zhang J, Green DM, Sklar CA, Hudson MM, Robison LL, Chemaityly W, Yasui Y. A high-risk haplotype for premature menopause in childhood cancer survivors exposed to gonadotoxic therapy. *J Natl Cancer Inst*, 2018; 110(8): 895-904.
309. Claridy MD, Hudson MM, Caplan L, Mitby PA, Leisenring W, Smith SA, Robison LL, Mertens AC. Patterns of Internet-based health information seeking in adult survivors of childhood cancer. *Pediatr Blood Cancer*, 2018; 65(5): e26954.
310. Yuan Y, Zhou QM, Li B, Cai H, Chow EJ, Armstrong GT. A threshold-free summary index of prediction accuracy for censored time to event data. *Stat Med*, 2018; 37(10): 1671-1681.
311. Weil BR, Madenci AL, Liu Q, Howell RM, Gibson TM, Yasui Y, Neglia JP, Leisenring WM, Smith SA, Tonorezoes ES, Friedman DN, Constine LS, Tinkle CL, Diller LR, Armstrong GT, Oeffinger KC, Weldon CB. Late infection-related mortality in asplenic survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2018; 36(16): 1571-1578.
312. Zheng DJ, Krull KR, Chen Y, Diller L, Yasui Y, Leisenring WM, Brouwers P, Howell R, Lai JS, Balsamo L, Oeffinger KC, Robison LL, Armstrong GT, Kadan-Lottick NS. Long-term psychological and educational outcomes for survivors of neuroblastoma: a report from the Childhood Cancer Survivor Study. *Cancer*, 2018; 124(15): 3220-3230.
313. Gilleland Marchak J, Seidel KD, Mertens AC, Ritenour CWM, Wasilewski-Masker K, Leisenring WM, Sklar CA, Ford JS, Krull KR, Stovall M, Robison LL, Armstrong GT, Meacham LR. Perceptions of risk for infertility among male survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Cancer*, 2018; 124(11): 2447-2455.
314. Dagnall CL, Morton LM, Hicks BD, Li S, Zhou W, Karlins E, Teshome K, Chowdhury S, Lashley KS, Sampson JN, Robison LL, Armstrong GT, Bhatia S, Radloff GA, Davies SM, Tucker MA, Yeager M, Chanock SJ. Successful use of whole genome amplified DNA from multiple source types for high-density Illumina SNP microarrays. *BMC Genomics*, 2018; 19(1): 182.
315. Gibson TM, Li C, Armstrong GT, Srivastava DK, Leisenring WM, Mertens A, Brinkman TM, Diller L, Nathan PC, Hudson MM, Robison LL. Perceptions of future health and cancer risk in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Cancer*, 2018; 124(16): 3436-3444.

316. Perez GK, Kirchhoff AC, Recklitis C, Krull KR, Kuhlthau KA, Nathan PC, Rabin J, Armstrong GT, Leisenring W, Robison LL, Park ER. Mental health insurance access and utilization among childhood cancer survivors: a report from the Childhood Cancer Survivor Study. *J Cancer Surviv*, 2018; 12(4): 528-536.
317. Inskip PD, Veiga LHS, Brenner AV, Sigurdson AJ, Ostroumova E, Chow EJ, Stovall M, Smith SA, Weathers RE, Leisenring W, Robison LL, Armstrong GT, Sklar CA, Lubin JH. Hyperthyroidism after radiation therapy for childhood cancer: a report from the Childhood Cancer Survivor Study. *Radiat Res*, 2018; 190(2): 117-132.
318. Scott JM, Li N, Liu Q, Yasui Y, Leisenring W, Nathan PC, Gibson T, Armenian SH, Nilsen TS, Oeffinger KC, Ness KK, Adams SC, Robison LL, Armstrong GT, Jones LW. Association of exercise with mortality in adult survivors of childhood cancer. *JAMA Oncol*, 2018; 4(10):1352-1358.
319. Schulte F, Brinkman TM, Li C, Fay-McClymont T, Srivastava D, Ness KK, Howell RM, Mueller S, Wells E, Strother D, Lafay-Cousin L, Leisenring W, Robison LL, Armstrong GT, Krull KR. Social adjustment in adolescent survivors of pediatric central nervous system tumors: a report from the Childhood Cancer Survivor Study. *Cancer*, 2018; 124(17):3596-3608.
320. Mueller EL, Park ER, Kirchhoff AC, Kuhlthau K, Nathan PC, Perez G, Rabin J, Hutchinson R, Oeffinger KC, Robison LL, Armstrong GT, Leisenring WM, Donelan K. Insurance, chronic health conditions, and utilization of primary and specialty outpatient services: a Childhood Cancer Survivor Study report. *J Cancer Surviv*, 2018; 12(5):639-646.
321. Machiela MJ, Grünwald TGP, Surdez D, Reynaud S, Mirabeau O, Karlins E, Rubio RA, Zaidi S, Grossetete-Lalami S, Ballet S, Lapouble E, Laurence V, Michon J, Pierron G, Kovar H, Gaspar N, Kontny U, González-Neira A, Picci P, Alonso J, Patino-Garcia A, Corradini N, Bérard PM, Freedman ND, Rothman N, Dagnall CL, Burdett L, Jones K, Manning M, Wyatt K, Zhou W, Yeager M, Cox DG, Hoover RN, Khan J, Armstrong GT, Leisenring WM, Bhatia S, Robison LL, Kulozik AE, Kriebel J, Meitinger T, Metzler M, Hartmann W, Strauch K, Kirchner T, Dirksen U, Morton LM, Mirabello L, Tucker MA, Tirode F, Chanock SJ, Delattre O. Genome-wide association study identifies multiple new loci associated with Ewing sarcoma susceptibility. *Nat Commun*, 2018; 9(1): 3184.
322. Gibson TM, Mostoufi-Moab S, Stratton KL, Leisenring WM, Barnea D, Chow EJ, Donaldson SS, Howell RM, Hudson MM, Mahajan A, Nathan PC, Ness KK, Sklar CA, Tonorezos ES, Weldon CB, Wells EM, Yasui Y, Armstrong GT, Robison LL, Oeffinger KC. Temporal patterns in the risk of chronic health conditions in survivors of childhood cancer diagnosed 1970-99: a report from the Childhood Cancer Survivor Study cohort. *Lancet Oncol*, 2018; 19(12):1590-1601.
323. Madenci AL, Weil BR, Liu Q, Murphy AJ, Gibson TM, Yasui Y, Leisenring WM, Howell RM, Tinkle CL, Nekhlyudov L, Diller LR, Armstrong GT, Oeffinger KC, Weldon CB. Long-term risk of venous thromboembolism in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2018; 36(31):3144-3151.
324. Weinstein AG, Henrich CC, Armstrong GT, Stratton KL, King TZ, Leisenring WM, Krull KR. Role of positive psychological outcomes in future health perception and mental health problems: a report from the Childhood Cancer Survivor Study. *Psychooncology*, 2018; 27(12):2754-2760.
325. Yu G, Li Y, Zhu L, Zhao H, Sun J, Robison LL. An additive-multiplicative mean model for panel count data with dependent observation and drop-out processes. *Scandinavian Journal of Statistics*, 2018; 46(2):414-431.
326. Gramatges MM, Morton LM, Yasui Y, Arnold MA, Neglia JP, Leisenring WM, Machiela MJ, Dagnall CL, Chanock SJ, Armstrong GT, Robison LL, Bhatia S, Lupo PJ. Telomere length-associated genetic variants and the risk of thyroid cancer in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). *Cancer Epidemiol Biomarkers Prev*, 2018; 28(2):417-419.
327. Tonorezos ES, Ford JS, Wang L, Ness KK, Yasui Y, Leisenring WM, Sklar CA, Robison LL, Oeffinger KC, Nathan PC, Armstrong GT, Krull K, Jones LW. Impact of exercise on psychological burden in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Cancer*, 2019; 125(17):3059-3067.
328. Opstal-van Winden AWJ, de Haan HG, Hauptmann M, Schmidt MK, Broeks A, Russell NS, Janus CPM, Krol ADG, van der Bann FH, De Bruin ML, van Eggermond AM, Dennis J, Anton Culver H, Haiman CA, Sawyer EJ, Cox A, Devilee P, Hoening MJ, Peto J, Couch FJ, Pharoah P, Orr N, Easton DF, Aleman BMP, Strong LC, Bhatia S, Cooke R, Robison LL, Swerdlow AJ, van Leeuwen FE. Genetic susceptibility to radiation-induced breast cancer after Hodgkin Lymphoma. *Blood*, 2019; 133(10):1130-1139.

329. Brinkman TM, Lown EA, Li C, Olsson IT, Marchak JG, Stuber ML, Vuotto S, Srivastava D, Nathan PC, Leisenring WM, Armstrong GT, Robison LL, Krull KR. Alcohol consumption behaviors and neurocognitive dysfunction and emotional distress in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Addiction*, 2019; 114(2):226-235.
330. Lupo PJ, Brown AL, Arroyo VM, Kamdar KY, Belmont JW, Scheurer ME, Leisenring WM, Gramatges MM, Fatih Okcu M, Yasui Y, Oeffinger KC, Robison LL, Armstrong GT, Bhatia S. DNA methylation and obesity in survivors of pediatric acute lymphoblastic leukemia: a report from the Childhood Cancer Survivor Study. *Genes Chromosomes Cancer*, 2019; 58(1):52-59.
331. Salloum R, Chen Y, Yasui Y, Packer R, Leisenring W, Wells E, King A, Howell R, Gibson TM, Krull KR, Robison LL, Oeffinger KC, Fouladi M, Armstrong GT. Late morbidity and mortality among medulloblastoma survivors diagnosed across three decades: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2019; 37(9):731-740.
332. Effinger KE, Stratton KL, Fisher PG, Ness KK, Krull KR, Oeffinger KC, Armstrong GT, Robison LL, Hudson MM, Leisenring WM, Nathan PC. Long-term health and social function in adult survivors of pediatric astrocytoma: a report from the Childhood Cancer Survivor Study. *Eur J Cancer*, 2019; 106; 171-180.
333. Bates JE, Howell RM, Liu Q, Yasui Y, Mulrooney DA, Dhakal S, Smith SA, Leisenring WM, Indelicato DJ, Gibson TM, Armstrong GT, Oeffinger KC, Constine LS. Therapy-related cardiac risk in childhood cancer survivors: an analysis of the Childhood Cancer Survivor Study. *J Clin Oncol*, 2019; 37(13):1090-1101.
334. Daniel LC, Wang M, Mulrooney DA, Srivastava D, Schwartz LA, Edelstein K, Brinkman TM, Zhou ES, Howell RM, Gibson TM, Leisenring W, Oeffinger KC, Neglia J, Robinson LL, Armstrong GT, Krull KR. Sleep, emotional distress, and physical health in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Psychooncology*, 2019; 28(4):903-912.
335. Inskip PD, Veiga LHS, Brenner AV, Sigurdson AJ, Ostroumova E, Chow EJ, Stovall M, Smith SA, Leisenring W, Robison LL, Armstrong GT, Sklar CA, Lubin JH. Hyperthyroidism after radiation therapy for childhood cancer: a report from the Childhood Cancer Survivor Study. *Int J Radiat Oncol Biol Phys*, 2019; 104(2):415-424.
336. Sapkota Y, Turcotte LM, Ehrhardt MJ, Howell RM, Arnold MA, Wilson CL, Leisenring W, Wang Z, Sampson J, Dagnall CL, Karlins E, Li SA, Hicks BD, Weathers R, Smith SA, Shelton K, Liu Q, Tucker MA, Chanock SJ, Zhang J, Hudson MM, Neglia JP, Armstrong GT, Robison LL, Morton L, Bhatia S, Yasui Y. Genome-wide association study in irradiated childhood cancer survivors identifies HTR2A for subsequent basal cell carcinoma. *J Invest Dermatol*, 2019; 139(9):2042-2045.
337. Geller AC, Keske RR, Haneuse S, Davine JA, Emmons KM, Daniel CL, Gibson TM, Marghoob A, Mertens AC, McDonald MJ, Robison LL, Howell RM, Whitton JA, Coroiu A, Leisenring WM, Armstrong GT. Skin cancer early detection practices among adult survivors of childhood cancer treated with radiation. *J Invest Dermatol*, 2019; 139(9):1898-1905.
338. Ris MD, Leisenring WM, Goodman P, Di C, Noll J, Levy W, Robison LL, Armstrong GT. Neuropsychological and socioeconomic outcomes in adult survivors of pediatric low-grade glioma. *Cancer*, 2019; 125(17):3050-3058.
339. Oeffinger KC, Ford JS, Moskowitz CS, Chou JF, Henderson TO, Hudson MM, Diller L, McDonald A, Ford J, Mubdi NZ, Rinehart D, Vukadinovich C, Gibson TM, Anderson N, Elkin EB, Garrett K, Rebull M, Leisenring W, Robison LL, Armstrong GT. Promoting breast cancer surveillance: The EMPOWER study, a randomized clinical trial in the Childhood Cancer Survivor Study. *J Clin Oncol*, 2019; 37(24):2131-2140.
340. Moskowitz CS, Chou JF, Neglia JP, Partridge AH, Howell RM, Diller LR, Novetsky Friedman D, Barnea D, Morton LM, Turcotte LM, Arnold MA, Leisenring WM, Armstrong GT, Robison LL, Oeffinger KC, Henderson TO. Mortality after breast cancer among adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2019; 37(24):2120-2130.
341. Dixon SB, Li N, Yasui Y, Bhatia S, Casillas JN, Gibson TM, Ness KK, Porter J, Howell RM, Leisenring WM, Robison LL, Hudson MM, Krull KR, Armstrong GT. Racial and ethnic disparities in neurocognitive, emotional, and quality of life outcomes in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Cancer*, 2019; 125(20): 3666-3677.

342. Ehrhardt MJ, Chen Y, Sandlund JT, Bluhm EC, Hayashi RJ, Bechtel K, Leisenring WM, Metzger ML, Ness KK, Krull KR, Oeffinger KC, Gibson TM, Cairo MS, Gross TG, Robison LL, Armstrong GT, Yasui Y, Hudson MM, Mulrooney DA. Late health outcomes after contemporary Lymphoma Malignant de Burkitt therapy for mature B-cell non-Hodgkin lymphoma: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2019; 37(28):2556-2570.
343. Dietz AC, Seidel K, Leisenring WM, Mulrooney DA, Tersak JM, Glick RD, Burnweit CA, Green DM, Diller LR, Smith SA, Howell RM, Stovall M, Armstrong GT, Oeffinger KC, Robison LL, Termuhlen AM. Solid organ transplantation after treatment for childhood cancer: a retrospective cohort analysis from the Childhood Cancer Survivor Study. *Lancet Oncol*, 2019; 20(10):1420-1431.
344. Bhatia S, Chen Y, Wong FL, Hageman L, Smith K, Korf B, Cannon A, Leidy DJ, Paz A, Andress JE, Friedman GK, Metrock K, Neglia JP, Arnold M, Turcotte LM, de Blank P, Leisenring W, Armstrong GT, Robison LL, Clapp DW, Shannon K, Nakamura JL, Fisher MJ. Subsequent neoplasms after a primary tumor in individuals with Neurofibromatosis type 1. *J Clin Oncol*, 2019; 37(32):3050-3058.
345. Madenci AL, Dieffenbach BV, Liu Q, Yoneoka D, Knell J, Gibson TM, Yasui Y, Leisenring WM, Howell RM, Diller LR, Krull KR, Armstrong GT, Oeffinger KC, Murphy AJ, Weil BR, Weldon CB. Late-onset anorectal disease and psychosocial impact in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Cancer*, 2019; 125(21):3873-3881.
346. Feijen EAM, Leisenring WM, Stratton KL, Ness KK, van der Pal HJH, van Dalen EC, Armstrong GT, Aune GJ, Green DM, Hudson MM, Loonen J, Oeffinger KC, Robison LL, Yasui Y, Kremer LCM, Chow EJ. Derivation of anthracycline and anthraquinone equivalence ratios to doxorubicin for late-onset cardiotoxicity. *JAMA Oncol*, 2019; 5(6):864-871.
347. Pradhan KR, Chen Y, Moustoufi-Moab S, Krull K, Oeffinger KC, Sklar C, Armstrong GT, Ness KK, Robison LL, Yasui Y, Nathan PC. Endocrine and metabolic disorders in survivors of childhood cancer and health-related quality of life and physical activity. *J Clin Endocrinol Meta*, 2019; 104(11):5183-5194.
348. Turcotte LM, Liu Q, Yasui Y, Henderson TO, Gibson TM, Leisenring W, Arnold MA, Howell RM, Green DM, Armstrong GT, Robison LL, Neglia JP. Chemotherapy and risk of subsequent malignant neoplasms in the Childhood Cancer Survivor Study cohort. *J Clin Oncol*, 2019; 37(34):3310-3319.
349. Crochet E, Tyc VL, Wang M, Srivastava DK, Van Sickle K, Nathan PC, Leisenring WM, Gibson TM, Armstrong GT, Krull KR. Posttraumatic stress as a contributor to behavioral health outcomes and healthcare utilization in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *J Cancer Surviv*, 2019; 13(6):981-992.
350. Chow EJ, Baldwin LM, Hagen AM, Hudson MM, Gibson TM, Kochar K, McDonald A, Nathan PC, Syrjala KL, Taylor SL, Tonorezoz ES, Yasui Y, Armstrong GT, Oeffinger KC. Communicating Health Information and Improving Coordination with Primary care (CHIIP): rationale and design of a randomized cardiovascular health promotion trial for adult survivors of childhood cancer. *Contemp Clin Trials*, 2019; 89:105915.
351. Wang Z, Wilson CL, Armstrong GT, Hudson MM, Zhang J, Nichols KE, Robison LL. Association of germline BRCA2 mutations with the risk of pediatric or adolescent non-hodgkin lymphoma. *JAMA Oncol*, 2020; 5(9):1362-1364.
352. Chen Y, Chow EJ, Oeffinger KC, Border WL, Leisenring WM, Meacham LR, Mulrooney DA, Sklar CA, Stovall M, Robison LL, Armstrong GT, Yasui Y. Traditional cardiovascular risk factors and individual prediction of cardiovascular events in childhood cancer survivors. *J Natl Cancer Inst*, 2020; 112(3):256-265.
353. Veiga LH, Curtis RE, Morton LM, Withrow DR, Howell R, Smith SA, Weathers RE, Oeffinger KC, Moskowitz CS, Henderson TO, Arnold MA, Gibson TM, Leisenring WM, Neglia JP, Turcotte LM, Whitton JA, Robison LL, Armstrong GT, Inskip PD, Berrington de Gonzalez A. Association of breast cancer risk after childhood cancer with radiation dose to the breast and anthracycline use: a report from the Childhood Cancer Survivor Study. *JAMA Pediatr*, 2020; 173(12):1171-1179.
354. Friedman DN, Moskowitz CS, Hilden P, Howell RM, Weathers RE, Smith SA, Wolden SL, Tonorezoz ES, Moustoufi-Moab S, Chow EJ, Meacham LR, Chou JF, Whitton JA, Leisenring WM, Robison LL, Armstrong GT, Oeffinger KC, Sklar CA. Radiation dose and volume to the pancreas and subsequent risk of diabetes mellitus: a report from the Childhood Cancer Survivor Study. *J Natl Cancer Inst*, 2020; 112(5):525-532.

355. Mueller S, Kline C, Buerki RA, Chen Y, Yasui Y, Howell R, Oeffinger K, Leisenring W, Robison LL, Armstrong GT, Fullerton HJ, Krull KR. Stroke impact on mortality and psychologic morbidity within the Childhood Cancer Survivor Study. *Cancer*, 2020; 126(5):1051-1059.
356. Suh E, Stratton KL, Leisenring WM, Nathan PC, Ford JS, Freyer DR, McNeer J, Stock W, Stovall M, Krull KR, Sklar CA, Neglia JP, Armstrong GT, Oeffinger KC, Robison LL, Henderson TO. Late mortality and chronic health conditions in long-term survivors of early-adolescent and young adult cancers: a retrospective cohort analysis from the Childhood Cancer Survivor Study. *Lancet Oncol*, 2020; 21(3):421-435.
357. Clark RA, Mostoufi-Moab S, Yasui Y, Vu NK, Sklar CA, Motan T, Brooke RJ, Gibson TM, Oeffinger KC, Howell RM, Smith SA, Lu Z, Robison LL, Chemaityly W, Hudson MM, Armstrong GT, Nathan PC, Yuan Y. Predicting acute ovarian failure in female survivors of childhood cancer: a cohort study in the Childhood Cancer Survivor Study (CCSS) and the St. Jude Lifetime Cohort (SJLIFE). *Lancet Oncol*, 2020; 21(3):436-445.
358. Schonfeld SJ, Howell RM, Smith SA, Neglia JP, Turcotte LM, Arnold MA, Inskip PD, Oeffinger KC, Moskowitz CS, Henderson TO, Leisenring WM, Gibson TM, Berrington de González A, Sampson JN, Chanock SJ, Tucker MA, Bhatia S, Robison LL, Armstrong GT, Morton LM. Comparison of radiation dose reconstruction methods to investigate late adverse effects of radiotherapy for childhood cancer: a report from the Childhood Cancer Survivor Study. *Radiat Res*, 2020; 193(2):95-106.
359. Ford JS, Tonorezos ES, Mertens AC, Hudson MM, Casillas J, Foster BM, Moskowitz CS, Smith SM, Chou JF, Buchanan G, Robison LL, Oeffinger KC. Barriers and facilitators of risk-based health care for adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Cancer*, 2020; 126(3):619-627.
360. Yeh JM, Ward ZJ, Chaudhry A, Liu Q, Yasui Y, Armstrong GT, Gibson TM, Howell R, Hudson MM, Krull KR, Leisenring WM, Oeffinger KC, Diller L. Life expectancy of adult survivors of childhood cancer over 3 decades. *JAMA Oncol*, 2020; 6(3):350-357.
361. Hayek S, Gibson TM, Leisenring WM, Guida JL, Gramatges MM, Lupo PJ, Howell RM, Oeffinger KC, Bhatia S, Edelstein K, Hudson MM, Robison LL, Nathan PC, Yasui Y, Krull KR, Armstrong GT, Ness KK. Prevalence and predictors of frailty in childhood cancer survivors and siblings: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2020; 38(3):232-247.
362. Mulrooney DA, Hyun G, Ness KK, Ehrhardt MJ, Yasui Y, Duprez D, Howell RM, Leisenring WM, Constine LS, Tonorezos E, Gibson TM, Robison LL, Oeffinger KC, Hudson MM, Armstrong GT. Major cardiac events for adult survivors of childhood cancer diagnosed between 1970 and 1999: report from the Childhood Cancer Survivor Study cohort. *BMJ*, 2020; 368:l6794.
363. Mirabello L, Zhu B, Koster R, Karlins E, Dean M, Yeager M, Gianferante M, Spector L, Morton L, Karyadi D, Robison LL, Armstrong GT, Bhatia S, Song L, Pankratz N, Pinheiro M, Gastier-Foster JM, Gorlick R, de Toledo SRC, Petrilli AS, Patiño-Garcia A, Lecanda F, Gutierrez-Jimeno M, Serra M, Hattinger C, Picci P, Scotlandi K, Flanagan AM, Tirabosco R, Amary AF, Kurucu N, Ilhan IE, Ballinger ML, Thomas DM, Barkauskas DA, Mejia-Baltodano G, Valverde P, Hicks BD, Zhu B, Wang M, Hutchinson AA, Tucker M, Sampson J, Landi MT, Freedman ND, Gapstur S, Carter B, Hoover RN, Chanock SJ, Savage SA. Frequency of pathogenic germline variants in cancer-susceptibility genes in patients with osteosarcoma. *JAMA Oncol*, 2020; 6(5):724-734.
364. Yan AP, Chen Y, Henderson TO, Oeffinger KC, Hudson MM, Gibson TM, Neglia JP, Leisenring WM, Ness KK, Ford JS, Robison LL, Armstrong GT, Yasui Y, Nathan PC. Adherence to surveillance for second malignant neoplasms and cardiac dysfunction in childhood cancer survivors: a Childhood Cancer Survivor Study. *J Clin Oncol*, 2020; 38(15):1711-1722.
365. Richard MA, Lupo PJ, Morton LM, Yasui Y, Sapkota Y, Arnold MA, Aubert G, Neglia JP, Turcotte LM, Leisenring WM, Sampson JN, Chanock SJ, Hudson MM, Armstrong GT, Robison LL, Bhatia S, Gramatges MM. Genetic variation in POT1 and risk of thyroid subsequent malignant neoplasm: a report from the Childhood Cancer Survivor Study. *PLOS ONE*, 2020; 15(2):e0228887.
366. Karlson CW, Alberts NM, Liu W, Brinkman TM, Annett R, Mulrooney DA, Schulte F, Leisenring WM, Gibson TM, Howell RM, Srivastava D, Oeffinger KC, Robison LL, Armstrong GT, Zeltzer LK, Krull KR. Longitudinal pain and pain interference in long-term survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Cancer*, 2020; 126(12):2915-2923.

367. Barlow-Krelina E, Chen Y, Yasui Y, Till C, Gibson TM, Ness KK, Leisenring WM, Howell RM, Nathan PC, Oeffinger KC, Robison LL, Armstrong GT, Krull KR, Edelstein K. Consistent physical activity and future neurocognitive problems in adult survivors of childhood cancers: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2020; 38(18):2014-2052.
368. Dieffenbach BV, Li N, Madenci AL, Murphy AJ, Barnea D, Gibson TM, Tonorezos ES, Leisenring WM, Howell RM, Diller LR, Liu Q, Chow EJ, Armstrong GT, Yasui Y, Oeffinger KC, Weldon CB, Weil BR. Incidence of and risk factors for late cholecystectomy in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Eur J Cancer*, 2020; 133:4-13.
369. Morton LM, Karyadi DM, Hartley SW, Frone MN, Sampson JN, Howell RM, Neglia JP, Arnold MA, Hicks BD, Jones K, Zhu B, Dagnall CL, Karlins E, Yeager MS, Leisenring WM, Yasui Y, Turcotte LM, Smith SA, Weathers RE, Miller J, Sigel BS, Merino DM, Berrington de Gonzalez A, Bhatia S, Robison LL, Tucker MA, Armstrong GT, Chanock SJ. Subsequent neoplasm risk associated with rare variants in DNA damage response and clinical radiation sensitivity syndrome genes in the Childhood Cancer Survivor Study, *JCO Precis Oncol*, 2020; 4(2020):926-936.
370. Yeh JM, Lowry KP, Schechter CB, Diller LR, Alagoz O, Armstrong GT, Hampton JM, Leisenring WM, Liu Q, Mandelblatt JS, Miglioretti DL, Moskowitz CS, Oeffinger KC, Trentham-Dietz A, Stout NK. Clinical benefits, harms, and cost-effectiveness of breast cancer screening for survivors of childhood cancer treated with chest radiation: a comparative modeling study. *Ann Intern Med*, 2020; 173(5):331-341.
371. Dixon SB, Chen Y, Yasui Y, Pui C, Hunger SP, Silverman LB, Ness KK, Green DM, Howell RM, Leisenring WM, Kaden-Lottick NS, Krull KR, Oeffinger KC, Neglia JP, Mertens AC, Hudson MM, Robison LL, Armstrong GT, Nathan PC. Reduced morbidity and mortality in survivors of childhood acute lymphoblastic leukemia: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2020; 38(29):3418-3429.
372. De Blank P, Li N, Fisher MJ, Ullrich NJ, Bhatia S, Yasui Y, Sklar CA, Leisenring W, Howell R, Oeffinger K, Hardy K, Okcu MF, Gibson TM, Robison LL, Armstrong GT, Krull KR. Late morbidity and mortality in adult survivors of childhood glioma with neurofibromatosis type 1: report from the Childhood Cancer Survivor Study. *Genet Med*, 2020; 22(11):1794-1802.
373. Cheung YT, Liu W, Brinkman TM, Srivastava D, Leisenring WM, Howell RM, Ullrich NJ, Lommel KM, Brouwers P, Gibson TM, Robison LL, Armstrong GT, Krull KR. Prescription psychoactive medication use in adolescent survivors of childhood cancer and association with adult functional outcomes. *JNCI Cancer Spectr*, 2020; 4(5):pkaa057.
374. Zhu L, Choi S, Li Y, Huang X, Sun J, Robison LL. Statistical analysis of clustered mixed recurrent-event data with application to a cancer survivor study. *Lifetime Data Anal*, 2020; 26(4):820-832.
375. Ehrhardt MJ, Ward ZJ, Liu Q, Chaudhry A, Nohria A, Border W, Fulbright JM, Mulrooney DA, Oeffinger KC, Nathan PC, Leisenring WM, Constine LS, Gibson TM, Chow EJ, Howell RM, Robison LL, Armstrong GT, Hudson MM, Diller L, Yasui Y, Armenian SH, Yeh JM. Cost-effectiveness of the International Late Effects of Childhood Cancer Guideline Harmonization Group screening guidelines to prevent heart failure in survivors of childhood cancer. *J Clin Oncol*, 2020; 38(33):3851-3862.
376. Im C, Qin N, Wang Z, Qui W, Howell CR, Sapkota Y, Moon W, Chemaitilly W, Gibson TM, Mulrooney DA, Ness KK, Wilson CL, Morton LM, Armstrong GT, Bhatia S, Zhang J, Hudson MM, Robison LL, Yasui Y. Generalizability of "GWAS hits" in clinical populations: lessons from childhood cancer survivors. *Am J Hum Genet*, 2020; 107(4):636-653.
377. Lin S, Sampson JN, Grünewald TGP, Surdez D, Reynaud S, Mirabeau O, Karlins E, Rubio RA, Zaidi S, Grossetete-Lalami S, Ballet S, Lapouble E, Laurence V, Michon J, Pierron G, Kovar H, Kontny U, González-Neira A, Alonso J, Patino-Garcia A, Corradini N, Bérard PM, Miller J, Freedman ND, Rothman N, Carter BD, Dagnall CL, Burdett L, Jones K, Manning M, Wyatt K, Zhou W, Yeager M, Cox DG, Hoover RN, Khan J, Armstrong GT, Leisenring WM, Bhatia S, Robison LL, Kulozik AE, Kriebel J, Meitinger T, Metzler M, Krumbholz M, Hartmann W, Strauch K, Kirchner T, Dirksen U, Mirabello L, Tucker MA, Tirode F, Morton LM, Chanock SJ, Delattre O, Machiela MJ. Low-frequency variation near common germline susceptibility loci are associated with risk of Ewing sarcoma. *PLoS One*, 2020; 15(9):e0237792.

378. Alberts NM, Leisenring WM, Flynn JS, Whitton J, Gibson TM, Jibb L, McDonald A, Ford J, Moraveji N, Dear BF, Krull KR, Robison LL, Stinson JN, Armstrong GT. Wearable respiratory monitoring and feedback for chronic pain in adult survivors of childhood cancer: a feasibility randomized controlled trial from the Childhood Cancer Survivor Study. *JCO Clin Cancer Inform*, 2020; 4:1014-1026.
379. Shrestha S, Gupta AC, Bates JE, Lee C, Owens CA, Hoppe BS, Constine LS, Smith SA, Qiao Y, Weathers RE, Yasui Y, Court LE, Paulino AC, Pinnix CC, Kry SF, Followill DS, Armstrong GT, Howell RM. Development and validation of an age-scalable cardiac model with substructures for dosimetry in late-effects studies of childhood cancer survivors. *Radiother Oncol*, 2020; 153:163-171.
380. Sim JA, Hyun G, Gibson TM, Yasui Y, Leisenring W, Hudson MM, Robison LL, Armstrong GT, Krull KR, Huang IC. Negligible effects of the survey modes for patient-reported outcomes: a report from the Childhood Cancer Survivor Study. *JCO Clin Cancer Inform*, 2020; 4:10-24.
381. Stefanski K, Anixt JS, Goodman P, Bowers K, Leisenring W, Baker KS, Burns K, Howell R, Davies S, Robison LL, Armstrong GT, Krull KK, Recklitis C. Long-term neurocognitive and psychosocial outcomes after Acute Myeloid Leukemia: a Childhood Cancer Survivor Study report. *J Natl Cancer Inst*, 2021; 113(4):481-495.
382. Richard MA, Brown AL, Belmont JMW, Scheurer ME, Arroyo VM, Foster KL, Kern KD, Hudson MM, Leisenring WM, Okcu MF, Sapkota Y, Yasui Y, Morton LM, Chanock SJ, Robison LL, Armstrong GT, Bhatia S, Oeffinger KC, Lupo PJ, Kamdar KY. Genetic variation in body mass index of adult survivors of childhood acute lymphoblastic leukemia: a report from the Childhood Cancer Survivor Study and St. Jude Lifetime Cohort. *Cancer*, 2021; 127(2):310-318.
383. Van der Plas E, Qiu W, Nieman BJ, Yasui Y, Liu Q, Dixon S, Kadan-Lottick NS, Weldon CB, Weil BR, Jacola LM, Gibson TM, Leisenring W, Oeffinger K, Hudson MM, Robison LL, Armstrong GT, Krull KR. Sex-specific associations between chemotherapy, chronic conditions, and neurocognitive impairment in Acute Lymphoblastic Leukemia survivors: a report from the Childhood Cancer Survivor Study. *J Natl Cancer Inst*, 2021; 113(5):588-596.
384. Fidler-Benaoudia MM, Oeffinger KC, Yasui Y, Robison LL, Winter DL, Reulen RC, Leisenring WM, Chen Y, Armstrong GT, Hawkins MM. A comparison of late mortality among survivors of childhood cancer in the United States and United Kingdom. *J Natl Cancer Inst*, 2021; 113(5):562-571.
385. Foster RH, Hayashi RJ, Wang M, Liu W, Mohrmann C, Howell RM, Smith SA, Gibson TM, Srivastava D, Green DM, Oeffinger KC, Leisenring WM, Robison LL, Armstrong GT, Krull KR, Hardy KK. Psychological, educational, and social late effects in adolescent survivors of Wilms tumor: a report from the Childhood Cancer Survivor Study. *Psychooncology*, 2021; 30(3):349-360.
386. Oeffinger KC, Stratton KL, Hudson MM, Leisenring WM, Henderson TO, Howell RM, Wolden SL, Constine LS, Diller LR, Sklar CA, Nathan PC, Castellino SM, Barnea D, Smith SA, Hutchinson RJ, Armstrong GT, Robison LL. Impact of risk-adapted therapy for pediatric Hodgkin Lymphoma on risk of long-term morbidity: a report from the Childhood Cancer Survivor Study. *J Clin Oncol*, 2021; 39(20):2266-2275.
387. Im C, Li N, Moon W, Liu Q, Morton LM, Leisenring WM, Howell RM, Chow EJ, Sklar CA, Wilson CL, Wang Z, Sapkota Y, Chemahtilly W, Ness KK, Hudson MM, Robison LL, Bhatia S, Armstrong GT, Yasui Y. Genome-wide association studies reveal novel locus with sex-/therapy-specific fracture risk effects in childhood cancer survivors. *J Bone Miner Res*, 2021; 36(4):685-695.
388. Sapkota Y, Li N, Pierzynski J, Mulrooney DA, Ness KK, Morton LM, Michael JR, Zhang J, Bhatia S, Armstrong GT, Hudson MM, Robison LL, Yasui Y. Contribution of polygenic risk to hypertension among long-term survivors of childhood cancer. *JACC CardioOncol*, 2021; 3(1):76-84.
389. Kim J, Gianferante M, Karyardi DM, Hartley SW, Frone M, Luo W, Robison LL, Armstrong GT, Bhatia S, Dean M, Yeager M, Zhu B, Song L, Sampson JN, Yasui Y, Leisenring WM, Brodie SA, de Andrade K, Forte F, Goldstein A, Khincha P, Machiela MJ, McMaster ML, Nickerson ML, Oba L, Pemov A, Pinheiro M, Rotunno M, Santiago K, Wegman-Ostrosky T, Diver R, Teras L, Freedman N, Hicks BD, Zhu B, Wang M, Jones K, Hutchinson AA, Dagnall C, Savage SA, Tucker M, Chanock SJ, Morton LM, Stewart DR, Mirabello L. Frequency of pathogenic germline variants in cancer-susceptibility genes in the Childhood Cancer Survivor Study. *JNCI Cancer Spectr*, 2021; 5(2):pkab007.

390. DeSisto J, Lucas JT, Xu K, Donson A, Lin T, Sanford B, Wu G, Tran QT, Hedges D, Hsu C, Armstrong GT, Arnold M, Bhatia S, Flannery P, Lemma R, Hardie L, Schüller U, Venkataraman S, Hoffman LM, Dorris K, Levy JM, Hankinson TC, Handler M, Liu A, Foreman N, Vibhakkar R, Jones K, Allen S, Zhang J, Baker SJ, Merchant TE, Orr BA, Green AL. Comprehensive molecular characterization of pediatric radiation-induced high-grade glioma. *Nat Commun*, 2021; 12(1):5331.
391. Fair D, Park ER, Nipp RD, Rabin J, Hyland K, Kuhlthau K, Perez GK, Nathan PC, Armstrong GT, Oeffinger KC, Robison LL, Leisenring WM, Kirchhoff AC. Material, behavioral, and psychological financial hardship among childhood cancer survivors in the Childhood Cancer Survivor Study. *Cancer*, 2021; 127(17):3214-3222.
392. Asdahl PH, Oeffinger KC, Albieri V, Hudson M, Leisenring WM, Donaldson S, Hasle H, Winther JF, Armstrong GT, Robison LL. Esophageal disease among childhood cancer survivors — a report from the Childhood Cancer Survivors Study. *Pediatr Blood Cancer*, 2021; 68(8):e29043.
393. Moskowitz CS, Ronckers CM, Chou JF, Smith SA, Friedman DN, Barnea D, Kok J, de Vries S, Wolden SL, Henderson TO, van der Pal HJH, Kremer LCM, Neglia JP, Turcotte LM, Howell RM, Arnold MA, Schaapveld M, Aleman B, Janus C, Versluys B, Leisenring W, Sklar CA, Begg CB, Pike MC, Armstrong GT, Robison LL, van Leeuwen FE, Oeffinger KC. Development and validation of a breast cancer risk prediction model for childhood cancer survivors treated with chest radiation: a report from the Childhood Cancer Survivor Study and the Dutch Hodgkin Late Effects and LATER cohorts. *J Clin Oncol*, 2021; 39(27):3012-3021.
394. Rodwin RL, Chen Y, Yasui Y, Leisenring WM, Gibson TM, Nathan PC, Howell RM, Krull KR, Mohrmann C, Hayashi RJ, Chow EJ, Oeffinger KC, Armstrong GT, Ness KK, Kadan-Lottick NS. Longitudinal evaluation of neuromuscular dysfunction in long-term survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Cancer Epidemiol Biomarkers Prev*, 2021; 30(8):1536-1545.
395. Trendowski MR, Baedke J, Sapkota Y, Travis LB, Zhang X, Charif OE, Wheeler HE, Leisenring W, Robison LL, Hudson MM, Morton L, Oeffinger KC, Howell RM, Armstrong GT, Bhatia S, Dolan ME. Clinical and genetic risk factors for radiation-associated ototoxicity: a report from the Childhood Cancer Survivor Study and the St. Jude Lifetime cohort. *Cancer*, 2021; 127(21):4091-4102.
396. Dieffenbach BV, Liu Q, Murphy A, Stein D, Wu N, Madenci A, Leisenring W, Kadan-Lottick N, Christison-Lagay E, Goldsby R, Howell R, Smith S, Oeffinger K, Yasui Y, Armstrong G, Weldon C, Chow E, Weil B. Late-onset kidney failure in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Eur J Cancer*, 2021; 155:216-226.
397. Song N, Liu Q, Wilson CL, Sapkota Y, Ehrhardt MJ, Gibson TM, Morton LM, Chanock SJ, Neglia JP, Arnold MA, Michael JR, Gout A, Mulder H, Easton J, Bhatia S, Armstrong GT, Zhang J, Delaney A, Hudson MM, Robison LL, Yasui Y, Wang Z. Polygenic risk score improves risk stratification and prediction of subsequent thyroid cancer after childhood cancer. *Cancer Epidemiol Biomarkers Prev*, 2021; 30(11):2096-104.
398. Krull KR, McDonald A, Goodman P, Vukadinovich C, Ford J, Leisenring WM, Chow E, Robison LL, Armstrong GT. Impact of the COVID-19 pandemic on a large cohort of adult survivors of childhood cancer. *Pediatr Blood Cancer*, 2021; 68(11):e29324.
399. Ghosh T, Chen Y, Dietz AC, Armstrong GT, Howell RM, Smith SA, Mulrooney DA, Turcotte LM, Yuan Y, Yasui Y, Neglia J. Lung cancer as a subsequent malignant neoplasm in survivors of childhood cancer. *Cancer Epidemiol Biomarkers Prev*, 2021; 30(12):2235-2243.
400. Shrestha S, Bates JE, Liu Q, Smith SA, Oeffinger KC, Chow EJ, Gupta AC, Owens CA, Constine LS, Hoppe BS, Leisenring WM, Qiao Y, Weathers RE, Court LE, Pinnix CC, Kry SF, Mulrooney DA, Armstrong GT, Yasui Y, Howell RM. Radiation therapy related cardiac disease risk in childhood cancer survivors: updated dosimetry analysis from the Childhood Cancer Survivor Study. *Radiother Oncol*, 2021; 163:199-208.
401. Sato S, Li N, Dixon S, MD, Kato M, Zhang H, Li CK, Howell RM, Leisenring WM, Bhatia S, Oeffinger KC, Armstrong GT, Yasui Y, Krull KR, Cheung YT. Functional outcomes and social attainment in Asian/Pacific Islander childhood cancer survivors in the United States: a report from the Childhood Cancer Survivor Study. *Cancer Epidemiol Biomarkers Prev*, 2021; 30(12):2244-2255.
402. Williams AM, Salehabadi SM, Xing M, Phillips N, Ehrhardt M, Howell R, Yasui Y, Oeffinger KC, Gibson T, Chow E, Leisenring W, Srivastava D, Hudson M, Robison L, Armstrong GT, Krull K. Modifiable risk factors for neurocognitive and psychosocial problems after Hodgkin Lymphoma. *Blood*, 2021; Epub Dec 3, 2021.

403. Morales S, Salehabadi SM, Srivastava D, Gibson TM, Leisenring WM, Alderfer MA, Lown EA, Zeltzer LK, Armstrong GT, Krull KR, Buchbinder D. Health-related and cancer risk concerns among siblings of childhood cancer survivors: a report from the Childhood Cancer Survivor Study (CCSS). *J Cancer Surviv*, 2021; Epub Jun 1, 2021.
404. Yeh JM, Lowry KP, Schechter CB, Diller LR, O'Brien G, Alagoz O, Armstrong GT, Hampton JM, Hudson MM, Leisenring W, Liu Q, Mandelblatt JS, Miglioretti DL, Moskowitz CS, Nathan PC, Neglia JP, Oeffinger KC, Trentham-Dietz A, Stout NK. Breast cancer screening among childhood cancer survivors treated without chest radiation: clinical benefits and cost-effectiveness. *J Natl Cancer Inst*, 2022; 114(2):235-244.
405. Man T, Aubert G, Richard MA, LeJeune W, Hariri E, Goltsova T, Gaikwad A, Chen Y, Whitton J, Leisenring WM, Arnold MA, Neglia JP, Yasui Y, Robison LL, Armstrong GT, Bhatia S, Gramatges MM. Short NK- and naïve T-cell telomere length is associated with thyroid cancer in childhood cancer survivors: a report from the Childhood Cancer Survivor Study. *Cancer Epidemiol Biomarkers Prev*, 2022; 31(2):453-460.
406. Henderson TO, Fowler B, Hamann H, Nathan PC, Whitton J, Leisenring WM, Oeffinger KC, Neglia JP, Turcotte LM, Arnold MA, Conces MR, Howell RM, Robison LL, Armstrong GT, Alexander KA. Subsequent malignant neoplasms in the Childhood Cancer Survivor Study: Occurrence of cancer types in which human papillomavirus is an established etiologic risk factor. *Cancer*, 2022; 128(2):373-382.
407. Dixon SB, Chen Y, Yasui Y, Pui C, Hunger SP, Silverman LB, Ness KK, Green DM, Howell RM, Leisenring WM, Kadan-Lottick NS, Krull KR, Oeffinger KC, Neglia JP, Hudson MM, Robison LL, Mertens LL, Armstrong GT, Nathan PC. Impact of risk-stratified therapy on health status in survivors of childhood Acute Lymphoblastic Leukemia: a report from the Childhood Cancer Survivor Study. *Cancer Epidemiol Biomarkers Prev*, 2022; 31(1):150-160.
408. Gupta AC, Owens CA, Shrestha S, Lee C, Smith SA, Weathers RE, Netherton T, Balter PA, Kry SF, Followill DS, Griffin KT, Long JP, Armstrong GT, Howell RM. Body region-specific 3D age-scaling functions for scaling whole-body computed tomography anatomy for pediatric late effects studies. *Biomed Phys Eng Express*, 2022; 8(2):5051.
409. Kadan-Lottick NS, Zheng DJ, Wang M, Bishop MW, Srivastava DK, Ross WL, Rodwin RL, Ness KK, Gibson TM, Spunt SL, Okcu MF, Leisenring WM, Robison LL, Armstrong GT, Krull KR. Patient-reported neurocognitive function in adult survivors of childhood and adolescent osteosarcoma and Ewing sarcoma. *J Cancer Surviv*, 2022; Epub Jan 21, 2022.
410. Geiger EJ, Liu W, Srivastava DK, Bernthal NM, Weil BR, Yasui Y, Ness KK, Krull KR, Goldsby RE, Oeffinger KC, Robison LL, Dieffenbach BV, Weldon C, Gebhardt MC, Howell R, Murphy A, Leisenring WM, Armstrong GT, Chow EJ, Wustrack RL. What are risk factors for and outcomes of late amputation after treatment for lower extremity sarcoma: a Childhood Cancer Survivor Study report. *Clin Orthop Relat Res*, 2022; (In Press).
411. Chow EJ, Chen Y, Armstrong GT, Baldwin L, Cai CR, Gibson TM, Hudson MM, McDonald A, Nathan PC, Olgin JE, Syrjala KL, Tonorezos ES, Oeffinger KC, Yasui Y. Underdiagnosis and undertreatment of modifiable cardiovascular risk factors among survivors of childhood cancer. *J Am Heart Assoc*, 2022; (In Press).
412. Sapkota Y, Qui W, Dixon SB, Wilson CL, Wang Z, Zhang J, Leisenring W, Chow EJ, Bhatia S, Armstrong GT, Robison LL, Hudson MM, Delaney A, Yasui Y. Prediction of risk of morbid obesity in adult survivors of childhood cancer: a report from the St. Jude Lifetime Cohort and the Childhood Cancer Survivor Study. *Nat Med*, 2022; (In Press).
413. Sapkota Y, Ehrhardt MJ, Qin N, Wang Z, Liu Q, Shelton K, Shao Y, Plyler E, Mulder HL, Michael JR, BurrIDGE PW, Wang X, Wilson CL, Jefferies JJ, Chow EJ, Oeffinger KC, Morton LM, Li C, Yang JJ, Zhang J, Bhatia S, Mulrooney DA, Hudson MM, Robison LL, Armstrong GT, Yasui Y. Whole genome sequence analysis identifies a novel locus on 6p21.2 for treatment-induced cardiac dysfunction among childhood cancer survivors. *J Natl Cancer Inst*, 2022; (In Press).

## Manuscripts Submitted for Publication

1. Chen C, Song N, Dong Q, Sun X, Li Z, Mulder HL, Easton J, Zhang J, Yasui Y, Bhatia S, Armstrong GT, Wang H, Ness KK, Hudson MM, Robison LL, Wang Z. Meta-analysis of three genome-wide association studies of childhood Hodgkin lymphoma refines associations in HLA locus and identifies novel SNPs in non-HLA loci. Submitted.
2. Geller AC, Coroiu A, Keske RR, Haneuse S, Davine JA, Emmons KM, Daniel CL, Gibson TM, McDonald AJ, Robison LL, Mertens AC, Elkin EB, Marghood A, Armstrong GT. Advancing Survivors Knowledge (ASK Study) of skin cancer surveillance after childhood cancer: a randomized controlled trial in the Childhood Cancer Survivor Study. Submitted.
3. Henderson TO, Liu Q, Turcotte LM, Neglia JP, Hodgson D, Diller L, Kenney L, Morton L, Berrington de Gonzalez A, Arnold M, Bhatia S, Howell RM, Smith SA, Robison LL, Armstrong GT, Oeffinger KC, Yasui Y, Moskowitz CS. Impact of changes in cancer therapy over three decades on risk of subsequent breast cancer among female childhood cancer survivors: a report from the Childhood Cancer Survivor Study (CCSS). Submitted.
4. Henderson TO, Bardwell JK, Moskowitz CS, McDonald A, Vukadinovich C, Lam H, Curry M, Oeffinger KC, Ford JS, Elkin EB, Nathan PC, Armstrong GT, Kim K. Implementing a mHealth intervention to increase colorectal cancer screening among high-risk cancer survivors treated with radiotherapy in the Childhood Cancer Survivor Study (CCSS) using a hybrid type ii effectiveness and implementation design: a protocol for the ASPIRES study. Submitted.
5. Hesko C, Liu W, Srivastava D, Brinkman TM, Diller L, Gibson TM, Oeffinger KC, Leisenring WM, Howell R, Armstrong GT, Krull KR, Henderson TO. Neurocognitive outcomes in adult survivors of neuroblastoma: a report from the Childhood Cancer Survivor Study. Submitted.
6. Kim J, Karyadi DM, Hartley SW, Zhu B, Wang B, Wu D, Song L, Armstrong GT, Bhatia S, Robison LL, Yasui Y, Carter B, Sampson JN, Freedman ND, Goldstein AM, Mirabello L, Chanock SJ, Morton LM, Savage SA, Stewart DR. Factors contributing to elevated false-positive findings using public controls in rare-variant association analyses. Submitted.
7. Lu D, Sapkota Y, Valdimarsdóttir UA, Koenen KC, Li N, Leisenring WM, Gibson TM, Wilson CL, Robison LL, Hudson MM, Armstrong GT, Krull K, Yasui Y, Bhatia S, Recklitis CJ. Genome-wide association study of posttraumatic stress disorder among childhood cancer survivors: results from the Childhood Cancer Survivor Study and the St. Jude Lifetime Cohort. Submitted.
8. Nathan PC, Huang I, Chen Y, Henderson TO, Park ER, Kirchhoff AC, Robison LL, Krull K, Leisenring W, Armstrong GT, Conti RM, Yasui Y, Yabroff KR. Experiences of financial hardship in adult survivors of childhood cancer in the era of the Affordable Care Act: a report from the Childhood Cancer Survivor Study (CCSS). Submitted.
9. Noyd DH, Li N, Liu Q, Yasui Y, Chow EJ, Bhatia S, Nathan PC, Landstrom AP, Gilchrist SC, Tonorezos E, Casillas J, Berkman A, Ness KK, Mulrooney DA, Leisenring WM, Howell CR, Shoag J, Kirchhoff A, Howell RM, Gibson TM, Zullig LL, Armstrong GT, Oeffinger KC. Disparities in cardiovascular risk factors by race/ethnicity among survivors of childhood cancer compared to the general population: a report from the Childhood Cancer Survivor Study (CCSS). Submitted.
10. Owens CA, Rigaud B, Ludmir EB, Gupta A, Shrestha S, Paulino AC, Smith SA, Peterson C, Kry SF, Lee C, Henderson T, Armstrong GT, Brock KK, Howell RM. Development and validation of a population-based anatomical colorectal model for radiation dosimetry in late effects studies of survivors of childhood cancer. Submitted.
11. Richard MA, Mostoufi-Moab S, Rathore N, Brown AL, Chanock SJ, Friedman DN, Gramatges MM, Howell LR, Morton LM, Oeffinger KC, Robison LL, Sapkota Y, Sklar CA, Armstrong GT, Bhatia S, Lupo PJ. Germline genetic and treatment-related risk factors for diabetes mellitus in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study and St. Jude Lifetime cohorts. Submitted.
12. Rotz SJ, Worley S, Hu B, Bazeley P, Baedke JL, Hudson MM, Kuo DJ, Oeffinger KC, Robison LL, Sahoo D, Wang F, Yasui Y, Armstrong GT, Bhatia S. Genome wide association study of pregnancy in childhood cancer survivors: a report from the Childhood Cancer Survivor Study. Submitted.

13. Schulte F, Chen Y, Yasui Y, Ruiz ME, Leisenring WM, Gibson TM, Nathan PC, Oeffinger KC, Hudson MM, Armstrong GT, Robison LL, Krull KR, Huang I. Predicting Poor health-related quality of life among adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). Submitted.
14. Turcotte LM, Whitton JA, Leisenring WM, Howell RM, Neglia JP, Oeffinger KC, Ness KK, Woods WG, Kolb EA, Robison LL, Armstrong GT, Chow EJ. Chronic health conditions, late mortality and health status among survivors of childhood acute myeloid leukemia: a report from the Childhood Cancer Survivor Study. Submitted.
15. Wang X, Singh P, Landier W, Hageman L, Relling MV, Chen Y, Blanco JG, Sapkota Y, Yasui Y, Morton L, Armstrong GT, Oeffinger KC, Hudson MM, Chow EJ, Armenian SH, Arora M, Robison LL, Bhatia S. Prediction of cardiomyopathy in anthracycline-exposed cancer survivors: a report from the Children's Oncology Group, the Childhood Cancer Survivor Study and the Bone Marrow Transplant Survivor Study. Submitted.
16. Withrow DR, Anderson H, Armstrong GT, Hawkins M, Journy N, Neglia JP, de Vathaire F, Tucker MA, Inskip P, Brenner A, Stovall, M, Diallo I, Berrington de Gonzalez A, Veiga LHS. Pooled analysis of meningioma risk following treatment for childhood cancer. Submitted.
17. Wong FL, Lee JM, Leisenring WM, Neglia JP, Howell RM, Smith SA, Oeffinger KC, Moskowitz CS, Henderson TO, Mertens A, Nathan PC, Yasui Y, Landier W, Armstrong GT, Robison LL, Bhatia S. Health benefits and cost-effectiveness of Children's Oncology Group breast cancer screening guidelines for chest-irradiated Hodgkin Lymphoma survivors. Submitted.
18. Zhu L, Sun R, Li Y, Armstrong GT. Regression analysis with proportional intensity model for general mixed recurrent event data. Submitted.

## Investigator-Initiated, Ancillary Studies for External-Funding that Utilize the CCSS Resource

### Ancillary Studies: Completed

**Principal Investigator:** Charles Sklar (Memorial Sloan Kettering Cancer Center)

**Title:** Safety/Efficacy of Growth Hormone Therapy in Survivors of Childhood Cancer

**Dates of Funding:** 9/96 - 8/00

**Funding Source:** Genentech Foundation

**Award:** \$222,150

**Study Aims:** Evaluate the use of growth hormone therapy in survivors of childhood cancer to determine potential impact on final height, risk of cancer-recurrence, and risk of second neoplasm.

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**Principal Investigator:** Karen Emmons (Harvard University)

**Title:** Smoking Cessation among Childhood Cancer Survivors

**Dates of Funding:** 9/98 - 7/03

**Funding Source:** National Institutes of Health (R01 CA77780-04S1)

**Award:** \$2,174,161

**Study Aims:** Conduct a randomized intervention trial to test a peer-based smoking cessation program for long-term survivors of childhood cancer.

---

**Principal Investigator:** H. Stacy Nicholson (Oregon Health Sciences Center)

**Title:** Quality of Life after Successful Treatment for Acute Myelogenous Leukemia

**Dates of Funding:** 7/98 – 6/04

**Funding Source:** National Institutes of Health (R01 CA78960-01)

**Award:** \$732,679

**Study Aims:** Evaluate the occurrence of late effects among five-year survivors of childhood acute myeloid leukemia to compare the risks associated with intensive therapy, including bone marrow transplantation.

---

**Principal Investigator:** Charles Sklar (Memorial Sloan Kettering Cancer Center)

**Title:** Premature Menopause in Survivors of Childhood Cancer

**Dates of Funding:** 9/98 – 8/01

**Funding Source:** National Institutes of Health (R01 CA79024)

**Award:** \$482,000

**Study Aims:** Examine the prevalence and risk factors for premature menopause and associated psychosexual functioning in a cohort of 5500 young adult female survivors of cancer diagnosed during childhood and adolescence.

---

**Principal Investigator:** Kevin Oeffinger (Memorial Sloan Kettering Cancer Center)

**Title:** Patient Perceived Barriers to Long-Term Follow-up for Adult Survivors of Childhood Cancer

**Dates of Funding:** 7/99 – 6/04

**Funding Source:** Robert Wood Johnson Foundation

**Award:** \$232,010

**Study Aims:** Determine the spectrum of, and characteristics predictive for barriers to cancer-related health care of adult survivors of childhood cancer.

---

**Principal Investigator:** John Boice (International Epidemiology Institute)

**Title:** Preconception Radiation and Reproductive Outcomes among Survivors of Childhood Cancer

**Dates of Funding:** 2000 - 2005

**Funding Source:** Westlakes Research Institute

**Award:** \$450,000

**Study Aims:** Investigate the potential risk of transgenerational effects among the offspring of survivors of childhood cancer in the USA and Denmark who were treated with radiation.

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## Ancillary Studies: Completed (continued)

**Principal Investigator:** Ann Mertens (University of Minnesota)

**Title:** Health Profiles in Adolescent Survivors of Childhood Cancer

**Dates of Funding:** 1/01 – 12/03

**Funding Source:** American Cancer Society

**Award:** \$565,000

**Study Aims:** Investigate the physical, cognitive and emotional development of adolescent survivors of childhood cancer to aid in development interventions to improve quality of life.

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**Principal Investigator:** Rajaram Nagarajan (University of Minnesota)

**Title:** Function and Quality of Life of Survivors of Pediatric Lower Limb Tumors

**Dates of Funding:** 7/01 – 6/02

**Funding Source:** ASCO (Young Investigator Award)

**Study Aims:** Investigate the function, quality of life, and psychosocial outcomes of adult survivors of pediatric lower extremity bone tumors to compare amputation and limb-sparing surgeries within age-specific groups.

---

**Principal Investigator:** Ann Mertens (University of Minnesota)

**Title:** Radiation Dosimetry for Childhood Cancer Survivors

**Dates of Funding:** 1/03 – 12/05

**Funding Source:** Lance Armstrong Foundation

**Award:** \$148,984

**Study Aims:** Estimate tissue-specific dose of radiation received by survivors of childhood cancer who experience selected adverse outcomes within the context of a nested case-control study.

---

**Principal Investigator:** Kevin Oeffinger (Memorial Sloan Kettering Cancer Center)

**Title:** Feasibility Study for Project VISION: A Virtual Information Center for Survivors

**Dates of Funding:** 1/03 – 12/05

**Funding Source:** Lance Armstrong Foundation

**Award:** \$90,190

**Study Aims:** Assess the feasibility of a randomized clinical trial using a virtual information center as a cognitive-based intervention with survivors and health care providers.

---

**Principal Investigator:** James Gurney (University of Minnesota)

**Title:** Metabolic Syndrome in Adult Survivors of Childhood acute Lymphoblastic Leukemia

**Dates of Funding:** 7/04 – 6/06

**Funding Source:** National Institutes of Health (R21 CA1068778)

**Award:** \$225,000

**Study Aims:** Evaluate clinically the metabolic syndrome and associations with growth hormone deficiency and endothelial impairment as late effects of treatment for childhood acute lymphoblastic leukemia.

---

**Principal Investigator:** Kevin Oeffinger (Memorial Sloan Kettering Cancer Center)

**Title:** Mammography and High-Risk Survivors of Pediatric Cancer

**Dates of Funding:** 9/04 – 7/07

**Funding Source:** National institute of Health (R21 CA106972)

**Award:** \$225,000

**Study Aims:** Evaluate the prevalence of and factors predictive for mammography among long-term survivors of childhood cancer who are at high-risk for radiation-induced breast cancer.

---

**Principal Investigator:** Lonnie Zeltzer (UCLA)

**Title:** Psychosocial, Behavioral and Pain Outcomes in Survivors of Childhood Cancer

**Dates of Funding:** 1/05 – 12/07

**Funding Source:** Lance Armstrong Foundation

**Award:** \$150,000

**Study Aims:** Determine, within the CCSS cohort, the prevalence and risk factors for psychosocial outcomes in long-term survivors of childhood and adolescent cancer.

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## Ancillary Studies: Completed (continued)

**Principal Investigator:** Ann Mertens (University of Minnesota)

**Title:** Radiation Dose and Risk of Non-Melanoma Skin Cancer in Cancer Survivors

**Dates of Funding:** 1/06 – 12/08

**Funding Source:** Lance Armstrong Foundation

**Award:** \$247,500

**Study Aims:** Investigate radiation doses and the subsequent risk of non-melanoma skin cancer in cancer survivors.

---

**Principal Investigator:** Kenan Onel (University of Chicago)

**Title:** Prognostic Genetic Biomarkers for Cancer

**Dates of Funding:** 7/07 – 6/10

**Funding Source:** National Cancer Institute (R21 CA129045-02)

**Award:** \$220,000

**Study Aims:** Detailed genomic and functional analysis of inborn susceptibilities in another SMN, IR-induced SMN in Hodgkin disease survivors.

---

**Principal Investigator:** Debra Friedman (Vanderbilt University)

**Title:** Health Outcomes for Hodgkin Disease Survivors

**Dates of Funding:** 9/04 – 6/10

**Funding Source:** National Institutes of Health (R01 CA106750-05)

**Award:** \$2,279,993

**Study Aims:** Examine the cumulative incidence and characterize the spectrum of selected adverse physiologic and psychosocial outcomes in contemporarily treated Hodgkin disease survivors.

---

**Principal Investigator:** Yuri Nikiforov (University of Pittsburgh)

**Title:** Mechanisms of RET/PTC Rearrangements in Thyroid Cancer

**Dates of Funding:** 4/07 – 3/12

**Funding Source:** National Institutes of Health

**Award:** \$1,706,391

**Study Aims:** To test whether alterations in one or more DNA repair genes lead to an increased rate of RET/PTC rearrangement in vitro and to thyroid cancer in patients exposed to radiation.

---

**Principal Investigator:** Robert Klesges (St. Jude Children's Research Hospital)

**Title:** Efficacy of a Tobacco Quit Line for Childhood Cancer Survivors

**Dates of Funding:** 1/08 – 11/12

**Funding Source:** National Institutes of Health (R01 CA127964-04)

**Award:** \$3,087,994

**Study Aims:** To conduct a randomized intervention trial designed to test the efficacy of Pro-active versus Reactive approach for smoking cessation.

---

**Principal Investigator:** Tara Henderson (University of Chicago)

**Title:** Health Beliefs and Behavior: Cohort Studies in Pediatric Cancer Survivorship

**Dates of Funding:** 9/08 – 8/12

**Funding Source:** National Institutes of Health (K07 CA134935-02)

**Award:** \$480,000

**Study Aims:** Characterize barriers and facilitators of breast cancer surveillance, diagnosis and therapy in women with secondary breast cancer, and explore associations between breast cancer surveillance practices, initial method of detection, health beliefs and breast cancer outcomes.

---

**Principal Investigator:** Peter Stambrook (University of Cincinnati)

**Title:** Environmental Exposure: Susceptibility alleles in a DNA damage response pathway

**Dates of Funding:** 12/08 – 11/13

**Funding Source:** National Institutes of Health (1R01 ES016625-01A1)

**Award:** \$2,537,000

**Study Aims:** Define genetic changes a signaling pathway that contribute to susceptibility to breast cancer after environmental exposure.

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## Ancillary Studies: Completed (continued)

**Principal Investigator:** Stella Davies (Cincinnati Children's Hospital Medical Center)

**Title:** Prediction Model for Radiation Sensitivity in Children with Cancer

**Dates of Funding:** 7/09 – 6/11

**Funding Source:** National Cancer Institute (U01 CA139275-01)

**Award:** \$410,944

**Study Aims:** To identify genetic polymorphisms related to BCC following radiation.

---

**Principal Investigator:** Lorna Finnegan (University of Illinois at Chicago)

**Title:** Symptom Cluster Subgroups in Adult Survivors of Childhood Cancer

**Dates of Funding:** 7/09 – 6/11

**Funding Source:** National Institutes of Health (R01 CA136912-02)

**Award:** \$487,066

**Study Aims:** Identify subgroups using a five-symptom cluster including pain, fatigue, sleep disturbance, psychological stress, difficulty concentrating to determine relations with influencing factors (e.g., cancer type, treatment modality, etc.).

---

**Principal Investigator:** Cheryl Cox (St. Jude Children's Research Hospital)

**Title:** Investigating the needs of childhood cancer survivors: The unreported experience (INSURE)

**Dates of Funding:** 1/10 – 12/11

**Funding Source:** National Cancer Institute (R21 CA14292-01)

**Award:** \$401,603

**Study Aims:** Evaluate the psychometric and item-response performance of a needs assessment survey; evaluate sample selection participants and response rates to inform future longitudinal needs assessment surveys.

---

**Principal Investigator:** Siv Sivaloganathan (University of Waterloo)

**Title:** Effective estimation of second cancer risks and resultant possible improvements in treatment protocols

**Dates of Funding:** 4/11 – 3/14

**Funding Source:** Canadian Institutes of Health Research – NSERC CHRP

**Award:** \$468,819

**Study Aims:** To develop predictive models of second cancer risk among adolescent Hodgkin lymphoma patients based on 3-dimensional normal tissue radiation dosimetry.

---

**Principal Investigator:** Jean Nakamura (University of California, San Francisco)

**Title:** Neurofibromin and response to genotoxins

**Dates of Funding:** 7/12 - 6/15

**Funding Source:** St. Baldrick's Foundation

**Award:**

**Study Aims:** (1) Determine whether loss of heterozygosity in tumor suppressor genes identified in the *Nf1* mutant mouse model occurs in second malignant neoplasms of childhood cancer survivors, and (2) determine whether transcript levels of candidate tumor suppressor genes are reduced in second malignant neoplasms.

---

**Principal Investigator:** Karen Effinger (Stanford University)

**Title:** Longitudinal Evaluation of Health Status in Survivors of Pediatric Astrocytoma

**Dates of Funding:** 7/14 – 6/15

**Funding Source:** ASCO Conquer Cancer Foundation Young Investigator Award (YIA)

**Award:** \$50,000

**Study Aims:** To evaluate 1) Health status, 2) Chronic Health Conditions and 3) Treatment-related risk factors among survivors of astrocytoma.

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## Ancillary Studies: Active

**Principal Investigator:** Lillian Meacham (Emory University)

**Title:** Testicular and sexual dysfunction in adult survivors of childhood cancer

**Dates of Funding:** 1/07 – 12/09

**Funding Source:** Lance Armstrong Foundation

**Award:** \$199,715

**Study Aims:** Investigate the psychosexual function of male long-term survivors of childhood cancer to determine the prevalence of and risk factors for physiological and psychological adverse outcomes.

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**Principal Investigator:** Elyse Park (Massachusetts General Hospital)

**Title:** Are Adult Survivors of Childhood Cancer Underinsured?

**Dates of Funding:** 1/09 – 12/11

**Funding Source:** Lance Armstrong Foundation

**Award:** \$240,367

**Study Aims:** To compare survivor's and sibling's quality of coverage, perceptions of coverage, consequences of inadequate coverage and coverage-related concerns. To examine survivors' and siblings' knowledge regarding relevant legislations.

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**Principal Investigator:** Douglas Ris (Baylor College of Medicine)

**Title:** Adult Neurobehavioral Late Effects of Pediatric Low-Grade Brain Tumors

**Dates of Funding:** 6/09 – 4/14

**Funding Source:** National Institutes of Health (R01 CA132899-01A1)

**Award:** \$1,827,576

**Study Aims:** Ascertain the presence, degree and nature of neuropsychological dysfunction in adults treated as children for low grade brain tumors and to investigate accelerated cognitive aging.

---

**Principal Investigator:** Melissa Hudson, Cheryl Cox (St. Jude Children's Research Hospital)

**Title:** Evaluation of Cardiovascular Outcomes Among Childhood Cancer Survivors (ECHOS)

**Dates of Funding:** 9/09 – 7/13

**Funding Source:** National Institutes of Health (R01 NR011322-02)

**Award:** \$2,177,710

**Study Aims:** Assess the efficacy of the intervention in increasing the rate of CV screening and to identify changes in survivor behavioral characteristics in response to the intervention, their mediating effects on the primary outcome, and the cost-effectiveness of the intervention.

---

**Principal Investigator:** Kevin Oeffinger (Memorial Sloan Kettering Cancer Center)

**Title:** EMPOWER Study: Encourage Mammography and Prevention Opportunities for Women Exposed to Radiation

**Dates of Funding:** 9/09 – 7/14

**Funding Source:** National Institutes of Health (R01 CA134722)

**Award:** \$2,392,669

**Study Aims:** Determine efficacy of stepwise two-component intervention on mammography rates and explore moderating and mediating factors.

---

**Principal Investigator:** Chaya Moskowitz (Memorial Sloan Kettering Cancer Center)

**Title:** Prediction model: Breast Cancer in Women Irradiated for Pediatric Malignancy

**Dates of Funding:** 4/10 – 1/14

**Funding Source:** National Institutes of Health (R01 CA136783)

**Award:** \$1,630,970

**Study Aims:** Determine association of dose of chest radiation, additional treatment factors, and traditional breast cancer risk factors associated with risk of breast cancer among childhood cancer survivors, then develop a breast cancer risk prediction tool.

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**Principal Investigator:** Kayla Kamdar (Baylor)

**Title:** Genetic Susceptibility to Obesity after Treatment for Childhood Leukemia

**Dates of Funding:** 10/10 – 9/13

**Funding Source:** Leukemia & Lymphoma Society Translational Research Award

**Award:** \$600,000

**Study Aims:** Using genome-wide and candidate pathway analyses, this study aims to identify genetic variants and ultimately key biological pathways that are involved in the development of obesity.

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## Ancillary Studies: Active (continued)

**Principal Investigator:** Thomas Hardee (Drexel University)

**Title:** Latent Trajectories of Late Treatment Effects in Pediatric Brain Tumor Survivors

**Dates of Funding:** 1/11 - 1/13

**Funding Source:** Oncology Nurse Society Foundation

**Award:** \$10,000

**Study Aims:** Identify longitudinal patterns of psychosocial outcomes in adult survivors of childhood brain tumors

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**Principal Investigator:** David Hodgson (University of Toronto)

**Title:** Secondary prevention among childhood cancer survivors: a quantitative approach to facilitate the effective use of screening

**Dates of Funding:** 4/11 – 3/13

**Funding Source:** POGO: Pediatric Cancer Outcomes Initiative (PCOI)

**Award:** \$115,140

**Study Aims:** To quantify the benefit of selected health maneuvers among childhood cancer survivors (early onset breast and colorectal cancer screening, echocardiography) using Markov transition-state models.

---

**Principal Investigator:** Emily Tonorezos (Memorial Sloan Kettering Cancer Center)

**Title:** Diet and insulin resistance in survivors of childhood leukemia

**Dates of Funding:** 6/11 – 6/14

**Funding Source:** American Cancer Society (Career Development Award)

**Award:** \$300,000

**Study Aims:** 1) Determine the effectiveness of a remotely delivered diet and physical activity intervention among obese ALL survivors, 2) Calculate the effect of the diet and physical activity intervention on insulin, leptin/adiponectin, and lipids.

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**Principal Investigator:** Emily Tonorezos (Memorial Sloan Kettering Cancer Center)

**Title:** Diet and insulin resistance in survivors of childhood leukemia

**Dates of Funding:** 1/14 – 3/16

**Funding Source:** American Institute for Cancer Research

**Award:** \$165,000

**Study Aims:** 1) Determine the effectiveness of a remotely delivered diet and physical activity intervention among obese ALL survivors, 2) Calculate the effect of the diet and physical activity intervention on insulin, leptin/adiponectin, and lipids.

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**Principal Investigator:** Sogol Mostoufi-Moab (University of Pennsylvania)

**Title:** Bone Deficits and Excess Adiposity after Pediatric Bone Marrow Transplantation

**Dates of Funding:** 6/13 – 5/18

**Funding Source:** National Institutes of Health (K07 CA166177)

**Award:** \$153,281

**Study Aims:** Among survivors of HSCT to characterize changes in bone density and structure, body composition and fat distribution, and associated risk factors and outcomes.

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**Principal Investigator:** Alan Geller (Harvard School of Public Health)

**Title:** Advancing Survivors Knowledge About Skin Cancer (ASK)

**Dates of Funding:** 5/13 – 4/18

**Funding Source:** National Institutes of Health (R01 CA175231)

**Award:** \$4,117,427

**Study Aims:** (1) Determine the impact of a patient activation and education intervention with and without physician education and teledermatology on skin cancer early detection practices and (2) Determine the impact of patient activation and education on utilization.

---

**Principal Investigator:** Emily Tonorezos (Memorial Sloan Kettering Cancer Center)

**Title:** Diet and insulin resistance in survivors of childhood leukemia

**Dates of Funding:** 8/14 - 7/19

**Funding Source:** National Institutes of Health (R01)

**Award:** \$3,220,769

**Study Aims:** 1) Determine the effectiveness of a remotely delivered diet and physical activity intervention among obese ALL survivors, 2) Calculate the effect of the diet and physical activity intervention on insulin, leptin/adiponectin, and lipids.

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## Ancillary Studies: Active (continued)

**Principal Investigator:** Maria Gramatges (Baylor College of Medicine)

**Title:** Shortened telomere length and defects in telomere maintenance associated with thyroid second malignant neoplasm in childhood cancer survivors

**Dates of Funding:** 9/15 - 6/19

**Funding Source:** National Institutes of Health (R01)

**Award:** \$1,444,716

**Study Aims:** 1) Determine whether SNPs associated with telomere maintenance are enriched in survivors with thyroid SMN (GWAS), 2) To look at impact of defects in telomere maintenance genes upon telomerase function.

**Principal Investigator:** Smita Bhatia (City of Hope)

**Title:** Developmental HyperActive Ras Tumor SPORE, (Subsequent Malignant Neoplasms among individuals with NF1)

**Dates of Funding:** 7/15 - 6/20

**Funding Source:** National Institutes of Health (SPORE)

**Award:** \$2,300,000

**Study Aims:** 1) To implement effective targeted molecular therapies for neoplasms and cancers characterized by NF1 mutations by conducting integrated, mechanistically based translational research. 2) To describe risk of SMNs and demographic/therapeutic factors associated with SMNs in individuals with NF1 and primary cancer.

**Principal Investigator:** I-Chan Huang (St. Jude Children's Research Hospital)

**Title:** Symptom Progress and Adverse Health Outcomes in Adult Survivors of Childhood Cancer

**Dates of Funding:** 12/15 - 11/17

**Funding Source:** National Institutes of Health (R21)

**Award:** \$489,133

**Study Aims:** 1) To investigate individual symptom categories and clusters across multiple time points.  
2) To investigate the prognostic value of symptoms for developing chronic conditions.

**Principal Investigator:** Jennifer Yeh (Harvard School of Medicine)

**Title:** Improving Cancer Screening Guidelines for Survivors of Childhood Cancer

**Dates of Funding:** 7/16 - 6/20

**Funding Source:** American Cancer Society

**Award:** \$825,000

**Study Aims:** 1) Develop a microsimulation model of the natural history of late-effects among childhood cancer survivors, 2) Use the model to project the disease burden, in terms of morbidity and mortality, associated with late-effects among treatment-exposure subgroups, and 3) Assess the comparative effectiveness (and cost-effectiveness) of recommended screening strategies for secondary breast and colorectal cancers to improve long-term outcomes among at-risk survivors.

**Principal Investigator:** Liang Zhu (St. Jude Children's Research Hospital)

**Title:** New Methods to Address Dilemmas in Mixed Recurrent-event and Panel-count data

**Dates of Funding:** 7/16 - 6/18

**Funding Source:** National Institutes of Health (R21)

**Award:** \$501,312

**Study Aims:** To develop semi-parametric methods for regression analysis for mixed recurrent-event data with a terminal event and compare them with alternative methods by simulation studies for application to CCSS data.

**Principal Investigator:** Yan Yuan (University of Alberta)

**Title:** Risk Prediction Model of Premature Menopause in Childhood Cancer Survivors

**Dates of Funding:** 7/16 - 12/18

**Funding Source:** Canadian Institutes of Health Research

**Award:** \$179,858

**Study Aims:** To develop a prediction model for early menopause.

**Principal Investigator:** Eric Chow (University of Washington)

**Title:** Communicating Health Issues and Improving Coordination with Primary Care (CHIIP Intervention Trial)

**Dates of Funding:** 3/17 - 2/22

**Funding Source:** National Institutes of Health (R01)

**Award:** \$3,720,495

**Study Aims:** 1) Determine prevalence of under diagnoses and under treatment of traditional cardiovascular risk factors, 2) Randomized controlled intervention to improve risk factors, 3) Determine barriers that lead to under diagnosis and under treatment.

## Ancillary Studies: Active (continued)

**Principal Investigator:** Lennie Wong (City of Hope)

**Title:** Cost effectiveness of breast cancer screening guidelines for female survivors of pediatric cancers

**Dates of Funding:** 7/17 - 6/20

**Funding Source:** American Cancer Society

**Award:** \$527,000

**Study Aims:** 1) Examine the cost-effectiveness of 1) annual clinical breast examination, 2) annual breast tomosynthesis vs. MRI as adjunct to mammography.

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**Principal Investigator:** Yutaka Yasui, Jinghui Zhang (St. Jude Children's Research Hospital)

**Title:** Late Effects Prediction using Clinical Phenotypes and Whole Genome Sequencing

**Dates of Funding:** 4/17 - 3/22

**Funding Source:** National Institutes of Health (RO1)

**Award:** \$3,457,455

**Study Aims:** 1) Build individual risk prediction models with the SJLIFE cohort for 11 outcomes including meningioma, basal cell carcinoma, and multiple subsequent neoplasms, 2) Validate the risk prediction models in a larger cohort study with higher SN counts (CCSS).

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**Principal Investigator:** Liang Zhu (University of Texas MD Anderson)

**Title:** Statistical Analysis for Mixed Outcome Measures in Recurrent Event Studies

**Dates of Funding:** 8/17 - 7/19

**Funding Source:** National Cancer Institute (R03)

**Award:** \$89,412

**Study Aims:** Develop a likelihood-based semiparametric estimation method for regression analysis of mixed panel-binary and panel-count data.

---

**Principal Investigator:** Kevin Oeffinger (Duke University)

**Title:** EMPOWER II Intervention Trial: Promoting Breast Cancer Screening in Women Who Survived Childhood Cancer

**Dates of Funding:** 4/18 - 3/22

**Funding Source:** National Institutes of Health (R01)

**Award:** \$3,072,928

**Study Aims:** To determine the efficacy of smart phone, text-based patient and physician activation to improve breast MRI and mammography screening rates.

---

**Principal Investigator:** Cecile Ronckers (Princess Maxima Center for Pediatric Oncology, Utrecht)

**Title:** Risk Factors for Female Breast Cancer After Treatment for Childhood and Adolescent Cancer: An Individual Patient Data Analysis

**Dates of Funding:** 7/18 - 6/21

**Funding Source:** Kika Foundation

**Award:** \$369,763

**Study Aims:** 1) Establish an internationally pooled and harmonized database for breast cancer outcomes, 2) Answer three questions identified by the International Harmonization Guidelines for risk for subsequent breast cancer including risk <20Gy, and risk associated with anthracycline exposure and attained age >50 years.

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**Principal Investigator:** Lucie Turcotte (University of Minnesota)

**Title:** Breast Cancer after Treatment for Childhood Cancer

**Dates of Funding:** 9/18 - 8/22

**Funding Source:** National Institutes of Health (K08)

**Award:** \$714,138

**Study Aims:** 1) Quantify OS and EFS among CCSS participants with breast cancer and compare with SEER cohort of women with primary breast cancer, 2) Compare prescribed treatment and breast cancer treatment-related toxicity between CCSS participants with breast cancer and a comparison cohort of women with primary breast cancer, 3) Perform semi-structured interviews with medical and radiation oncologists to understand drivers of treatment decision-making, and use responses to create a survey for distribution to medical and radiation oncologists.

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## Ancillary Studies: Active (continued)

**Principal Investigator:** Jennifer Yeh (Harvard School of Medicine)

**Title:** Genetic Testing to Guide Pediatric Cancer Care and Follow-up: Using Anthracycline-Associated Cardiomyopathy as a Model for the Future

**Dates of Funding:** 8/18 - 8/23

**Funding Source:** National Institutes of Health (Provocative Questions R01)

**Award:** \$2,079,924

**Study Aims:** 1) Determine the clinical utility of simulation model of cardiotoxicity genetic risk factors in guiding cancer care, 2) Assess how consideration of genetic markers can improve follow-up cardiomyopathy screening recommendations for at-risk survivors.

---

**Principal Investigator:** Elyse Park (Harvard School of Medicine)

**Title:** Developing a Health Insurance Navigation Program for Childhood Cancer Survivors

**Dates of Funding:** 1/19 - 12/21

**Funding Source:** American Cancer Society

**Award:** \$720,000

**Study Aims:** 1) To develop a psychoeducational health insurance navigation program (HINP), 2) To conduct a pilot randomized trial of the HINP, 3) To refine the HINP program for future use.

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**Principal Investigator:** Danielle Friedman (Memorial Sloan Kettering Cancer Center)

**Title:** Metabolic Syndrome after Total Body Irradiation

**Dates of Funding:** 1/20 - 12/22

**Funding Source:** American Cancer Society

**Award:** \$437,000

**Study Aims:** 1) Determine the relative risk of developing diabetes mellitus, hypertension, dyslipidemia, and obesity in childhood cancer survivors treated with total body irradiation between 1970-1999 (n=571), when compared to: (a) survivors treated with chemotherapy and/or surgery alone (n=5,434) and (b) a sibling comparison group (n=5,059).

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**Principal Investigator:** I-Chan Huang, Justin Baker (St. Jude Children's Research Hospital)

**Title:** Patient-Reported Outcomes Version of CTCAE involving Childhood Cancer Survivors

**Dates of Funding:** 8/19 – 7/24

**Funding Source:** National Cancer Institute (R01)

**Award:** \$3,491,488

**Study Aims:** 1) Conduct a symptom selection process for the PRO-CTCAE specific to survivors of childhood cancer (SCC) by identifying symptomatic adverse events in adult survivors and identifying items not included in the current PRO-CTCAE, 2) Validate the PRO-CTCAE-SCC using psychometric methods and objective clinical parameters, 3) Develop tailored versions of the PRO-CTCAE-SCC (core and target scales) for survivors of different diagnoses exposed to different cancer therapies, and establish meaningful cut-points and minimally important differences (MIDs) on symptom burden scores for clinical decision-making

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**Principal Investigator:** Tara Brinkman, Kevin Krull (St. Jude Children's Research Hospital)

**Title:** Impact of eHealth intervention for insomnia on late effects of childhood cancer (SLEEPWELL Intervention Trial)

**Dates of Funding:** 9/19 - 8/24

**Funding Source:** National Institutes of Health (R01)

**Award:** \$4,271,243

**Study Aims:** To assess the impact of insomnia treatment on neurocognitive impairment, symptoms of emotional distress, and indices of cardiovascular health in survivors of childhood cancer.

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**Principal Investigator:** Liang Zhu (University of Texas MD Anderson)

**Title:** Innovative Statistical Analysis for Genome-Wide Data with Interval-Censored Outcomes of Oral Health

**Dates of Funding:** 5/20 - 4/22

**Funding Source:** National Institutes of Health (R03)

**Award:** \$189,729

**Study Aims:** Develop nonparametric screening method for ultrahigh-dimensional interval-censored data

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## Ancillary Studies: Active (continued)

**Principal Investigator:** Tara Henderson (Univ. of Chicago), Angela Bradbury (Univ. of Pennsylvania)

**Title:** Improving Delivery of Genetic Services to High-Risk Childhood Cancer Survivors: A Randomized Study of Remote Genetic Services Versus Usual Care (ENGAGE Intervention Trial)

**Dates of Funding:** 7/20 - 6/25

**Funding Source:** National Institutes of Health (R01)

**Award:** \$3,415,882

**Study Aims:** 1) To Evaluate the efficacy of remote telegenetic services (telephone or videoconferencing) compared to usual care to increased uptake of genetic counseling, genetic testing and identification of germline genetic mutation carriers, 2) To evaluate the efficacy of real time video conferencing to provide greater knowledge and recall of results, decrease distress and improved satisfaction with genetic services compared to telephone delivery.

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**Principal Investigator:** Tara Henderson & Karen Kim (Univ. of Chicago)

**Title:** Activating Cancer Survivors and their Primary Care Providers to Increase Colorectal Screening (ASPIRES)

**Dates of Funding:** 3/21 - 2/26

**Funding Source:** National Institutes of Health (R01)

**Award:** \$3,421,337

**Study Aims:** To compare the efficacy of a remote digital mHealth intervention aimed at either patient activation or patient + physician activation compared to controls on completing recommended screening colonoscopy or multitarget stool DNA testing among childhood cancer survivors at high risk for colorectal cancer due to exposure to abdominal and/or pelvic radiotherapy.

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**Principal Investigator:** Cindy Im & Yan Yuan (University of Alberta)

**Title:** Survivor Polygenic Risk Scores

**Dates of Funding:** 9/21 - 8/23

**Funding Source:** National Institutes of Health (R21)

**Award:** \$279,068

**Study Aims:** Create a reference TX-G Effects Catalog for a range of treatments and subsequent malignant neoplasm, cardiovascular, and endocrine phenotypes and develop TX-G polygenic risk scores among childhood/AYA cancer survivors.

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**Principal Investigator:** Eric Chow (University of Washington)

**Title:** Study of Active Lifestyle Activation (SALSA Intervention Trial)

**Dates of Funding:** 9/21 - 8/26

**Funding Source:** National Institutes of Health (R01)

**Award:** \$3,559,277

**Study Aims:** Use a sequential multiple assignment randomized intervention trial (SMART) design to improve physical activity and diet.

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**Principal Investigator:** Chaya Moskowitz (Memorial Sloan Kettering) & Tara Henderson (University of Chicago)

**Title:** International Study of Subsequent Colorectal Cancer Among Survivors of Childhood, Adolescent, and Young Adult Cancers (I-SCRY)

**Dates of Funding:** 2/22 - 1/25

**Funding Source:** National Institutes of Health (R01)

**Award:** \$1,132,151

**Study Aims:** To evaluate the association of childhood and AYA cancer therapy (abdominal and/or pelvic radiation fields and dose, chemotherapy exposures including cumulative doses of alkylating agents, anthracyclines, platinating agents) on CRC risk in a large, multi-cohort, international survivor population.

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**Principal Investigator:** Xu Ji (Emory University)

**Title:** Understanding the impact of the Affordable Care Act on Healthcare Coverage, Utilization and Outcomes Among Survivors of Childhood Cancer

**Dates of Funding:** 12/21 - 12/23

**Funding Source:** National Institutes of Health (R03)

**Award:** \$171,872

**Study Aims:** Linkage with national Medicaid data to evaluate how the Affordable Care Act Medicaid expansion affects insurance coverage, health service utilization, and mortality for adult survivors of childhood cancer.

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## Ancillary Studies: Proposed

**Principal Investigator:** Nicole Alberts (Concordia University, Montreal)

**Title:** Treating Chronic Pain After Childhood Cancer: A Digital Health Intervention

**Proposed Funding Source:** Canadian Institutes of Health Research

**Study Aims:** To determine whether mHealth-based respiratory feedback plus CBT improves pain control compared to CBT alone or control.

**Status:** Submitted October 2020, September 2021 Unscored. Revised and resubmitted March 2022.

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**Principal Investigator:** Harry Ostrer (Albert Einstein University)

**Title:** Robust Genetic Predictors of Subsequent Neoplasm Risk

**Proposed Funding Source:** National Institutes of Health (R01)

**Study Aims:** 1) To identify the magnitude of germline defects in the double strand break (DSB) repair and mismatch repair (MMR) pathways in survivors of childhood cancer by cancer type and treatment exposures using flow variant assays (FVAs), and 2) To identify the prevalence of DNA repair defects in SN and adjacent normal tissues in survivors of childhood cancer by cancer type and radiotherapy exposure using whole genome sequencing (WGS).

**Status:** Submitted October 2020, unscored; Resubmitted July 2021, Unscored. Submitted to Department of Defense September 2021, not funded. New submission February 2022.

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**Principal Investigator:** Jennifer Yeh (Harvard University)

**Title:** Estimating the Clinical Outcomes and Cost-Effectiveness of Preventive Medicines to Reduce Secondary Cancers and Cardiovascular Disease in Childhood Cancer Survivors

**Proposed Funding Source:** National Institutes of Health (R01)

**Study Aims:** 1) Assess the clinical benefits, harms and harm-benefit tradeoffs of early initiation of tamoxifen to prevent breast cancer at age 25 or 5 years from time of risk recognition, 2) Evaluate the clinical benefits, harms and harm-benefit tradeoffs associated with aspirin for CRC prevention in at-risk survivors starting at younger ages, and 3) Estimate the clinical benefits and harms associated with early initiation of aspirin for CVD and CRC prevention in at-risk survivors starting at younger ages.

**Status:** Submitted October 2020, score 38; Resubmitted July 2021, score 28, under consideration for exception funding.

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**Principal Investigator:** Claire Snyder (Johns Hopkins University), Paul Nathan (Hospital for Sick Kids, Toronto)

**Title:** Managing Comorbid Conditions in Childhood Cancer Survivors: Communication, Coordination, and Continuity

**Proposed Funding Source:** National Institutes of Health (R01)

**Study Aims:** 1) To describe patterns of physician visits (number of visits, types of provider specialties visited) among childhood cancer survivors with medium or greater comorbidity burden, overall and by insurance type, 2) To evaluate the quality of communication, coordination, and continuity of care received by childhood cancer survivors with medium or greater comorbidity burden, overall and by insurance type, and 3) To obtain the perspectives of childhood cancer survivors and their providers regarding the management of comorbidities, including appropriate roles and responsibilities for patients, PCPs, oncology specialists, and other specialists.

**Status:** Submitted October 2020, score 33; Resubmitted July 2021, score 39. Plan to resubmit October 2022 as a new application.

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**Principal Investigator:** Rebecca Howell (MD Anderson), Dan Mulrooney, Yutaka Yasui (St. Jude Children's Research Hospital)

**Title:** Risk Prediction for Late Onset Cardiac Disease

**Proposed Funding Source:** National Institutes of Health (R01)

**Study Aims:** Develop a prediction model for cardiac outcomes using cardiac substructures

**Status:** Submitted October 2020, unscored; Resubmitted July 2021, score 27. Notice of Award pending.

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**Principal Investigator:** Elyse Park, PhD (Harvard Medical School), Anne Kirchhoff, PhD (University of Utah)

**Title:** Health Insurance Navigation Intervention Trial (HINT2)

**Proposed Funding Source:** National Institutes of Health (R01)

**Study Aims:** To determine the effectiveness of two digital patient navigation interventions on improving childhood cancer survivors' health insurance literacy at 6-months (primary outcome), and health insurance literacy, financial hardship, annual out-of-pocket costs, and health care utilization at 18 months

**Status:** Submitted July 2021, score 25. Notice of Award pending.

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## Ancillary Studies: Unfunded

**Principal Investigator:** Melissa Hudson (St. Jude Children's Research Hospital)

**Title:** Promoting Health Monitoring After Childhood Cancer

**Proposed Funding Source:** National Institutes of Health

**Study Aims:** Conduct a randomized trial to test generic health risk promotion versus tailored health risk promotion with proactive counseling to increase the rate of successful screening according to risk-based recommendations.

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**Principal Investigator:** Debra L. Friedman (Fred Hutchinson Cancer Research Center)

**Title:** A Web-Based Approach to Familial Cancer Risk

**Proposed Funding Source:** Lance Armstrong Foundation

**Study Aims:** Develop and test a web-based strategy for the investigation of familial cancers and second cancer risks among pediatric cancer survivors.

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**Principal Investigator:** Jin-Shei Lai (Northwestern University)

**Title:** Cancer Fatigue Monitoring from Childhood into Adulthood

**Proposed Funding Source:** National Institutes of Health (Application submitted to RFA)

**Study Aims:** Development of a valid, lifespan assessment of fatigue.

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**Principal Investigator:** Anne Lown (San Francisco State University)

**Title:** Alcohol Consumption Among Childhood Cancer Survivors

**Proposed Funding Source:** National Institutes of Health (K07 application)

**Study Aims:** Describe the prevalence and risk factors for survivors and sibling drinking and health-risk behaviors over time.

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**Principal Investigator:** Craig Lustig (Children's Cause for Cancer Advocacy)

**Title:** Childhood Cancer Survivor Study Partners

**Proposed Funding Source:** National Institutes of Health (Application submitted for RFA)

**Study Aims:** Establish a formal collaboration between an informed, responsible core of CCSS participants and investigators.

---

**Principal Investigator:** Andrea Patenaude (Dana Farber Cancer Institute)

**Title:** Understanding Genetic Medicine: Towards a Guide for Survivors

**Proposed Funding Source:** Lance Armstrong Foundation

**Study Aims:** To evaluate the potential genetic factors that may modify risk for adverse late effects in childhood cancer survivors.

---

**Principal Investigator:** Qian Lu (UCLA)

**Title:** A Longitudinal Study of Pain in Long-term Survivors of Childhood Cancer

**Proposed Funding Source:** Lance Armstrong Foundation

**Study Aims:** To determine the potential impact of chronic pain on overall quality of life among cancer survivors.

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**Principal Investigator:** Richard Sposto (Children's Hospital Los Angeles)

**Title:** Statistical Models for Risk/Benefit Analysis of Targeted Treatment Strategies in Childhood Cancer

**Proposed Funding Source:** National Institutes of Health (R21)

**Study Aims:** Statistical/methodological research addressing issues of acute toxicities and long-term sequelae of therapy, potentially providing new approaches for predicting the potential treatment-specific risks within pediatric cancer survivor populations.

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**Principal Investigator:** Whitney Witt (University of Wisconsin)

**Title:** The Impact of Childhood Cancer Survivorship on Parental Psychosocial Outcomes, Health, and Aging

**Proposed Funding Source:** National Institutes of Health (R01)

**Study Aims:** Identify the factors related to poor psychosocial outcomes (stress and family burden) among parents of long-term survivors of childhood cancer.

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**Principal Investigator:** Jaya Satagopan (Memorial Sloan-Kettering Cancer Center)

**Title:** Evaluation of Statistical Interactions in Cancer Epidemiology Studies

**Proposed Funding Source:** National Institutes of Health (R01)

**Study Aims:** To expand upon previous work and develop novel methods for evaluating interactions through investigating parametric link functions, shrinkage methods, and removable interactions, with subsequent software development.

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## Ancillary Studies: Unfunded (continued)

**Principal Investigator:** Richard Sposto (Children's Hospital Los Angeles)

**Title:** Personalized Therapeutic Decision-making for Childhood Cancer

**Proposed Funding Source:** Patient-Centered Outcomes Research Institute (PCORI)

**Study Aims:** Statistical/methodological research addressing issues of acute toxicities and long-term sequelae of therapy, potentially providing new approaches for predicting the potential treatment-specific risks within pediatric cancer survivor populations.

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**Principal Investigator:** Javier Blanco (University of Buffalo)

**Title:** Characterization of Cardiac Mitochondrial DNA in Donors with Down Syndrome

**Proposed Funding Source:** National Institutes of Health (K03)

**Study Aims:** To understand the specific alterations in cardiac mitochondrial DNA among individuals with and without Down Syndrome to inform future avenues of research to identify those factors associated with cardiotoxicity.

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**Principal Investigator:** Smita Bhatia (City of Hope) and Yutaka Yasui (University of Alberta)

**Title:** Genetic predisposition to non-malignant adverse events in survivors of Pediatric Hematological Malignancies

**Proposed Funding Source:** Leukemia and Lymphoma Society

**Study Aims:** 1) Identify germline variants associated with cognitive deficits, CHF, CAD, stroke, ovarian failure, and hypothyroidism, 2) Examine role of gene-environment interactions, 3) Replication of top SNPs

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**Principal Investigator:** Jennifer Yeh (Harvard School of Medicine)

**Title:** Refining risk-based follow-up guidelines to improve childhood cancer survivorship

**Proposed Funding Source:** National Institutes of Health (R01)

**Study Aims:** 1) Develop a childhood cancer survivor policy model, 2) Identify risk subgroups for identifying lifelong burden of disease

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**Principal Investigator:** Kenneth Offit (Memorial Sloan Kettering Cancer Center) and Charles Mullighan (St. Jude)

**Title:** Genetic Susceptibility to Acute Lymphoblastic Leukemia

**Proposed Funding Source:** National Institutes of Health (R01)

**Study Aims:** (1) To identify novel ALL susceptibility genes using massively parallel sequencing of familial ALL kindreds, (2) To identify underlying genetic susceptibility factors for the development of second and subsequent cancers in ALL, and (3) To determine the extent to which germline deleterious variants contribute to sporadic ALL.

---

**Principal Investigator:** Sabine Mueller (University of California San Francisco)

**Title:** Stroke in Survivors of Childhood Cancer

**Proposed Funding Source:** National Institutes of Health (R01)

**Study Aims:** 1) Direct MRI assessment of large/small vessel stroke, 2) Prevalence and factors for microbleeds

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**Principal Investigator:** Alan Geller (Harvard School of Public Health)

**Title:** Advancing Skin Cancer Screening Practices among Survivors of Childhood Cancer and Skin Cancer (ASK2)

**Proposed Funding Source:** National Institutes of Health, RO1

**Study Aims:** Among 450 CCSS participants with a diagnosis of skin cancer, determine the impact of a Patient Activation and Education intervention (PAE) (tailored print materials, text messages, and tailored phone calls) compared with generic print materials and text messages on skin cancer early detection and prevention practices measured at 6 and 12 months.

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**Principal Investigator:** Jennifer Yeh (Harvard School of Medicine)

**Title:** Identifying opportunities to Improve Childhood Cancer Survival with Genetic Testing

**Proposed Funding Source:** Alex's Lemonade Stand Foundation

**Study Aims:** Evaluate how genetic testing may improve risk stratification

**Status:** Submitted December 2015, unfunded

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**Principal Investigator:** Jennifer Yeh (Harvard School of Medicine)

**Title:** Identifying opportunities to Improve Childhood Cancer Survival with Genetic Testing

**Proposed Funding Source:** NIH R01

**Study Aims:** Evaluate how genetic testing may improve risk stratification

**Status:** Submitted February 2016, unfunded

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## Ancillary Studies: Unfunded (continued)

**Principal Investigator:** Elyse Park (Harvard School of Medicine)

**Title:** Understanding and improving health insurance coverage experiences of childhood cancer survivors

**Proposed Funding Source:** American Cancer Society

**Study Aims:** 1) Examine longitudinal changes in health insurance coverage following implementation of the ACA, 2) Examine health insurance challenges

**Status:** Scored Excellent, Resubmission May 2016, unfunded

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**Principal Investigator:** Jennifer Yeh (Harvard School of Medicine)

**Title:** Identifying opportunities to Improve Childhood Cancer Survival with Genetic Testing

**Proposed Funding Source:** Collaborative Pediatric Cancer Research Award

**Study Aims:** Evaluate how genetic testing may improve risk stratification

**Status:** Submitted January 2017, Unfunded

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**Principal Investigator:** David Brenner and Sally Amundson (Columbia University)

**Title:** Validation of interactome-based biomarkers of inherited susceptibility to radiation-induced carcinogenesis

**Proposed Funding Source:** NIH U01

**Study Aims:** To determine if the pattern of master regulator genes underlying the susceptibility to radiation-induced cancer in an Israeli cohort will be broadly generalizable to radiation-associated second cancers occurring in survivors of childhood cancer.

**Status:** Unfunded

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**Principal Investigator:** Tara Henderson (Univ. of Chicago)/Angela Bradbury (Univ. of Pennsylvania)

**Title:** Return of Genomic Results to Research Participants

**Proposed Funding Source:** National Institutes of Health R01

**Study Aims:** To evaluate the uptake of web-based education and return of genomic results

**Status:** Submitted February 2016, 50<sup>th</sup> percentile. Resubmitted October 2016, Unfunded

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**Principal Investigator:** Jennifer Yeh (Harvard School of Medicine)

**Title:** Identifying opportunities to Improve Childhood Cancer Survival with Genetic Testing

**Proposed Funding Source:** Pablove Foundation Grant

**Study Aims:** Evaluate how genetic testing may improve risk stratification

**Status:** Submitted April 2017, Unfunded

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**Principal Investigator:** Flora van Leeuwen (Netherlands Cancer Institute)

**Title:** Molecular markers to improve treatment-related accelerated aging in relation to late effects among survivors of Hodgkin lymphoma

**Proposed Funding Source:** Dutch Cancer Society

**Study Aims:** Assess whether telomere length and genetic variants linked with longevity and telomere length are associated with risk of developing multiple SMNs and cardiac events.

**Status:** Submitted March 2017, Unfunded

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**Principal Investigator:** Kathy Ruble (John Hopkins University)/Lee Ritterband (University of Virginia)/Kevin Krull (St. Jude Children's Research Hospital)

**Title:** eHealth Insomnia Intervention in Childhood Cancer Survivors: Impact on Long-Term Complications

**Proposed Funding Source:** NIH R01

**Study Aims:** To assess the impact of insomnia treatment on neurocognitive impairments in childhood cancer survivors and the impact of insomnia treatment on anxiety, depression, fatigue, and indices of cardiovascular health in CCS.

**Status:** Submitted November 2016, Unscored

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**Principal Investigator:** Liang Zhu (University of Texas Health Science Center)

**Title:** Analyzing Cancer Studies with Complex Recurrent Event Outcomes

**Proposed Funding Source:** NIH R01

**Study Aims:** To develop semi-parametric methods for basic regression analysis (Aim 1), to address complex features of analysis (Aim 2) and for high/ultrahigh-dimensional (Aim 3) mixed recurrent event data.

**Status:** Submitted June 2017, Unscored

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## Ancillary Studies: Unfunded (continued)

**Principal Investigator:** Todd Gibson/Kiri Ness (St. Jude Children's Research Hospital)

**Title:** Prevalence and Risk of Frailty in Survivors of Childhood Cancer

**Proposed Funding Source:** National Institutes of Health (R01)

**Study Aims:** 1) To determine the prevalence of frailty and pre-frailty, 2) To identify associations between treatment exposures and frailty, and 3) To evaluate associations with quality of life.

**Status:** Submitted October 2017, 33<sup>rd</sup> percentile score; Resubmitted, 29th percentile score; Submitted as new R01, August 2018, Unscored

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**Principal Investigator:** Philip Lupo (Baylor College of Medicine)

**Title:** Developing a Clinical and Genetic Risk Prediction Model for Diabetes Mellitus among Survivors of Childhood Cancer

**Proposed Funding Source:** V Foundation

**Study Aims:** To develop a Clinical and Genetic Risk Prediction Model for Diabetes Mellitus

**Status:** Submitted October 2018, Unfunded

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**Principal Investigator:** Stephanie Dixon (St. Jude Children's Research Hospital)

**Title:** Long-term outcomes of survivors of childhood Acute Lymphoblastic Leukemia (ALL) across 30-years of treatment: a report from the Childhood Cancer Survivor Study

**Proposed Funding Source:** Conquer Cancer, Career Development Award

**Study Aims:** To evaluate late mortality, SMNs and chronic health conditions in survivors of childhood ALL by treatment exposure group and era.

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**Principal Investigator:** James Bates (University of Florida)

**Title:** Influence of Radiotherapy Dose to Cardiac Substructures on Cardiac Risk in Long-Term Survivors

**Proposed Funding Source:** Conquer Cancer, Career Development Award

**Study Aims:** Develop a heart phantom to include cardiac substructures (including, but not limited to, the left ventricle, right ventricle, left atrium, right atrium, valvular structures, and coronary arteries) such that mean and maximum doses can be calculated for those substructures.

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**Principal Investigator:** Wendy Cozen (University of Southern California)

**Title:** The Immunobiology of Long-Term Survival in Twins Discordant for Childhood Cancer

**Proposed Funding Source:** National Institutes of Health (R01)

**Study Aims:** 1) Define immunologic alterations associated with pediatric leukemia / lymphoma survivorship (encompassing the cancer and its treatment by quantifying 16 systemic biomarkers of immune activation and inflammation in pediatric cancer survivors and their unaffected identical co-twins as controls. 2) Determine whether pediatric survivors have accelerated epigenetic aging compared to their unaffected twins, 3) Determine whether the gut microbiome is adversely altered survivors.

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**Principal Investigator:** Eileen Dolan (University of Chicago)

**Title:** GWAS for discovery of genetic associations with tinnitus and hearing loss

**Proposed Funding Source:** National Institutes of Health (R21)

**Study Aims:** To identify genetic variation associated with cisplatin-induced ototoxicity in the Platinum Study and de novo ototoxicity in CCSS and eMERGE cohorts using genome-wide SNP- and gene-level (PrediXcan) analyses and meta-analyses.

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**Principal Investigator:** Matt Ehrhardt/Melissa Hudson (St. Jude Children's Research Hospital)

**Title:** Evaluation of Cardiovascular Health Outcomes among Survivors Study II

**Proposed Funding Source:** National Institutes of Health (U01)

**Study Aims:** 1) Determine the effectiveness of a smartphone-based patient activation intervention and PCP activation on completion of echocardiogram screening.

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**Principal Investigator:** James Bates (Emory University)

**Title:** Radiation Dose to Cardiac Substructures and Risk for Cardiotoxicity in Long-Term Survivors

**Proposed Funding Source:** Andrew McDonough B+ Foundation

**Study Aims:** Refine the heart model of current CCSS age-specific computational phantoms by defining cardiac substructures (i.e., left ventricle, right ventricle, left atrium, right atrium, cardiac valves, and coronary arteries) and compute the mean and maximum doses for each structure.

**Status:** Submitted October 2020.

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## Ancillary Studies: Unfunded (continued)

**Principal Investigator:** Irene Su (University of California San Diego)

**Title:** A SMART approach to increasing reproductive health care in female young adult survivors of childhood cancer

**Proposed Funding Source:** National Institutes of Health (R01)

**Study Aims:** To evaluate the efficacy of a mobile-friendly, individualized reproductive health survivorship care plan (SCP-R) for increasing rates of fertility, family planning, and/or preconception counseling among female young adult survivors of childhood cancer who are experiencing a reproductive health need.

**Status:** Submitted March 2019, unscored; Resubmitted January 2020, scored 26<sup>th</sup> percentile; New Submission R01 October 2020. Scored 47.

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**Principal Investigator:** Sophia Smith (Duke University)

**Title:** Integrating Technological Approaches for Pain Management in Adult Survivors of Childhood Cancer

**Proposed Funding Source:** National Institutes of Health (R01)

**Study Aims:** 1) Determine the efficacy of a digital health intervention to reduce pain symptoms among adult survivors of childhood cancer, 2) Evaluate the interaction effect of mobile neurofeedback + CBT compared to mobile neurofeedback on pain outcomes, and 3) Identify moderators (e.g., participant characteristics, depression, anxiety, PTSD,) and mediators (e.g., self-efficacy) of intervention effects on pain outcomes.

**Status:** Submitted October 2020, unscored.

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**Principal Investigator:** Liang Zhu (MD Anderson)

**Title:** Integration of dental conditions in public genetic compendiums with data infrastructure development and in vitro f/u

**Proposed Funding Source:** National Institutes of Health (R21)

**Study Aims:** Discover variants and genes associated with periodontitis and loss of teeth using SJLIFE and the UK Biobank as two independent discovery cohorts. Validate associations discovered in Aim 1 using the independent CCSS cohort.

**Status:** Submitted October 2020 unscored; Resubmission planned for July 2021.

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**Principal Investigator:** Nicole Alberts, (Concordia University, Montreal)

**Title:** Internet-delivered cognitive-behaviour therapy for chronic pain in survivors of childhood cancer

**Proposed Funding Source:** SickKids Foundation New Investigators Research Grant

**Study Aims:** 1) Examine the feasibility and acceptability of internet-delivered cognitive behavioral therapy for chronic pain among adult survivors of childhood cancer, 2) Measure the effect of ICBT on reducing pain-related disability, 3 Measure the effect of ICBT on reducing pain severity, depression, anxiety, fear of cancer recurrence, and HRQOL

**Status:** Submitted April 2021.

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**Principal Investigator:** Chaya Moskowitz (Memorial Sloan Kettering), Kevin Oeffinger (Duke University)

**Title:** Evaluation of Breast Imaging of Childhood, Adolescent, and Young Adult Survivors Treated with Chest Radiation

**Proposed Funding Source:** National Institutes of Health (R01)

**Study Aims:** 1) Characterize qualitative and quantitative imaging features and radiologists' performance on mammography and breast MRI in women with a history of chest radiation therapy for a childhood, adolescent, or young adult cancer, and 2) Develop models to predict breast cancer risk among women with a history of chest radiation therapy.

**Status:** Submitted October 2020, unscored; Resubmitted July 2021, unscored.

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**Principal Investigator:** Monica Gramatges & Kiri Ness (St. Jude Children's Research Hospital)

**Title:** Biological Mechanisms of Accelerated Aging Evidenced as Frailty in Survivors of Childhood Leukemia

**Proposed Funding Source:** National Institutes of Health (R01)

**Study Aims:** Assess the associations between physiologic frailty and telomere length, systemic inflammation, and DNA methylation.

**Status:** Multiple submissions, unscored;

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**Principal Investigator:** Kiri Ness (St. Jude Children's Research Hospital)

**Title:** Autonomic Dysfunction in Survivors of Childhood Cancer

**Proposed Funding Source:** National Institutes of Health (R01)

**Study Aims:** Enumerate the prevalence of cardiac autonomic dysfunction in childhood cancer survivors compared to siblings.

**Status:** Submitted October 2020, unscored; New submission, October 2021, Unscored.

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**Principal Investigator:** Van Nghiem (University of Alabama School of Medicine)

**Title:** Cost Effectiveness of Colorectal Cancer Screening

**Proposed Funding Source:** National Institutes of Health (R21)

**Study Aims:** Evaluate the cost effectiveness of colorectal cancer screening.

**Status:** Submitted October 2020, scored 32; Resubmitted July 2021.

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# Statistical Center Project List

Concept	Project	Investigator	Stat Center Contact	Secondary/Sr. Statistician	Status
Submitted and Draft Manuscripts					
19-19	Genetic determinants of posttraumatic stress disorder in pediatric cancer survivors	Donghao Lu/ Chris Recklitis	Kayla	Donghao/Wendy	Submitted
17-11	Breast Cancer Risk in the Modern Treatment Era	Tara Henderson	Qi	Yutaka	Submitted
20-09	Financial Hardship in Survivors of Childhood Cancer and their Siblings: Overview paper	Paul Nathan	Yan Chen	Yutaka	Submitted
20-02	Disparities in Cardiovascular Outcomes among Childhood Cancer Survivors	David Noyd	Nan / Qi	Yutaka	Submitted
12-14	Cost Effectiveness of Breast Cancer Screening Guidelines for Female Survivors	Lennie Wong	Yan Chen	Yutaka/Wendy	Submitted
18-14	Long-term outcomes among survivors of childhood acute myeloid leukemia	Lucie Turcotte	Jillian	Wendy	Submitted
18-18	Determinants of Longitudinal Health-related Quality of Life Change	Maritza Ruiz/Shulte/ I-Chan Huang	Yan Chen	Yutaka	Submitted
13-01	Pooled International Study of Radiation related Tumors of the Brain and Nervous System	Peter Inskip / Lene Veiga	NCI statisticians	Pam	Submitted
19-01	GWAS of Modulators of Pregnancy in Long Term Survivors of Pediatric Cancer	Seth Rotz	Pam	Wendy	Submitted
18-01	Self-Reported Neuropsychological Outcomes in Adult Survivors of Neuroblastoma	Caroline Hesko	Wei Lu	Kumar	Submitted
19-20	Protein-altering variants (PAV) associated with BMI in the general population and their roles in survivors of childhood cancer	Yadav Sapkota	Yadav	Yutaka	Submitted
Ancillary	Underdiagnosis and undertreatment of modifiable cardiovascular risk factors among survivors of childhood cancer	Eric Chow	Yan Chen	Yutaka	Submitted
15-01	Using the Cumulative Illness Rating Scale to characterize the burden of chronic conditions	Adam Esbenshade	Kiri	Kiri / Wendy	Revising for new submission
09-15	Genitourinary outcomes in childhood cancer survivors	Margarett Shnorhavian/Brent Weil	Pam	Wendy	Draft manuscript
19-03	Physical Functioning and Chronic Health Conditions in Pediatric ALL and NHL survivors treated with contemporary therapy	Carmen Wilson	Geehong	Kiri	Draft manuscript
17-13	Infertility, assisted reproductive technology utilization and pregnancy outcomes (CCSS and SART)	Kimberly Keefe	Kayla	Wendy	Draft manuscript
19-07	Thirty-Five Year Follow-Up of Childhood Wilms Tumor: Impact of Treatment Era on Long-Term Health Outcomes	Brent Weil	Qi	Yutaka	Draft manuscript

Concept	Project	Investigator	Stat Center Contact	Secondary/Sr. Statistician	Status
14-22	Characteristics of the Expanded Childhood Cancer Survivor Study Cohort: 5-Year Survivors Diagnosed from 1970-1999	Mertens/Leisenring	Jillian/Kayla	Wendy	Draft manuscript
18-07	Changes in Long-Term Outcomes in Neuroblastoma Survivors Treated with Contemporary Therapies	Danielle Friedman	Pam	Wendy	Draft manuscript
16-15	Incidence, Predictors and Impact of Hearing Impairment	Austin Brown	Kristy	Wendy	Draft manuscript
19-22	Cognitive aging in adult survivors of childhood cancer	Nicholas Phillips	Kayla	Wendy	Draft manuscript
19-15	Temporal Changes in Unemployment of survivors of childhood cancer	Neel Bhatt	Pam	Wendy	Draft manuscript
19-23	Development and validation of a prediction model for end-stage renal disease	Natalie Wu	Yan Chen	Yutaka	Draft manuscript
20-10	Neurocognitive Outcomes in Survivors of Early Adolescent and Young Adult Hematologic Cancers	Amy Wang	Yan Chen	Yutaka	Draft manuscript
18-12	Prevalence and predictors of loneliness in young adult survivors of childhood cancer	Ameera Fayad/Tara Brinkman	Mingjuan Wang	Kumar	Draft manuscript
18-06	Long term follow-up of Osteosarcoma survivors	Kerri Beckett	Yan Chen	Yutaka	Draft manuscript
19-04	Risk factors for overweight and obesity after childhood acute lymphoblastic leukemia in North America and Switzerland: A comparison of two cohort studies	Claudia Kuehni	Pam	Local/Wendy	Draft manuscript
19-16	Influence of Radiotherapy Dose to Cardiac Substructures on Cardiac Risk in Long- Term Survivors of Childhood Cancer	James Bates	Qi	Yutaka	Draft manuscript
Ancillary	Pooled International Study: Risk Factors for Female Breast Cancer After Treatment for Childhood and Adolescent Cancer	Leontin Kremer / Jop Teeppen	Pam	Local / Wendy	Draft manuscript (first paper of several)
18-08	Mental health outcomes in adult survivors of childhood acute lymphoblastic leukemia treated with chemotherapy-only	Caleb Nannes	Kayla	Wendy	Draft manuscript
05-06	Risk of Increased Morbidity and Mortality in Underweight Survivors	Emily Tonorezos/Lillian Meacham	Wendy	Chaya	Manuscript in preparation
16-17	CCSS: Psychological distress, functional dependence and neurologic morbidity among adult survivors of childhood cancer treated with CNS-directed therapy	Tara Brinkman	Mingjuan	Kumar	Manuscript in preparation
17-16	Genetic Architecture of Diabetes Mellitus in Long-term Survivors of Childhood Cancer	Nisha Rathore/Philip Lupo	Kayla	Local/Wendy	Manuscript in preparation
19-10	Long-term Burden of Major Surgical Procedures	Bryan Dieffenbach	Qi	Yutaka	Manuscript in preparation
19-09	Paper 1: Outcomes of Adult Survivors of Childhood Astrocytoma and Ependymoma Across Three Decades of Diagnosis and Treatment	Kate Rae / Pete deBlank	Mengqi	Sedi/Kumar	Manuscript for Astro drafted
17-10	Trends in Utility-based Health-related Quality of Life	Jennifer Yeh	Weiyu	Yutaka	Manuscript in preparation
20-15	The changing pattern of late mortality as survivors age and the impact of modifiable risk factors and markers of biologic and cognitive impairment on late mortality.	Stephanie Dixon	Qi	Yutaka	Manuscript in preparation

Concept	Project	Investigator	Stat Center Contact	Secondary/Sr. Statistician	Status
20-24	Risk Prediction of Primary Ovarian Insufficiency in Childhood Cancer Survivors Using Polygenic Risk Scores and Clinical Predictors	Lin Yu	Lin Yu/Cindy Im	Yan Yuan	Manuscript in preparation
20-04	Use and Correlates of Carotid Ultrasound in Survivors of Childhood Cancer: A report from the Childhood Cancer Survivor Study	Yolanda Brycey / Emily Tonorezos	Jillian	Wendy	Manuscript in preparation
<b>Analyses Ongoing</b>					
14-18	Cognitive and academic difficulties in survivors of head/neck rhabdomyosarcomas	Bob Hayashi	Himani Darji	Kumar	Redoing analysis
13-05	Breast Cancer in Childhood Cancer Survivors: The impact of screening on morbidity	Tara Henderson	Chaya	Wendy	Analyses ongoing
14-03	Estimating the burden of disease associated with late-effects among childhood cancer survivors	Jennifer Yeh	Wendy/Pam	Jennifer Yeh/Harvard Statistician	Data sent. Paper 1 accepted, Add'l papers in analysis
15-04	Risk of breast and thyroid cancer after radiotherapy for Hodgkin's Lymphoma: Can reconstructed dosimetry data be used to predict secondary malignancies	David Hodgson	Pam	Wendy	Data sent. Analyses ongoing
15-11	Use of an incentive to increase biologic sample (Oragene) participation	Aaron McDonald	Mingjuan Wang	Kumar	Analyses complete
17-18	Associations between special education services, educational attainment, and chronic health conditions	Lisa Bashore	Wei Liu	Kumar	Analyses complete
18-03	Temporal trends in late-onset morbidity and mortality in rhabdomyosarcoma survivors	Pooja Hingorani	Mingjuan Wang	Kumar/Kiri	Analyses complete
18-19	Analysis of Genetic Variants from Candidate Anthracycline-responsive Genes in iPSC-Cardiomyocytes as Predictors of Cardiotoxicity	Monica Reyes	Kayla	Wendy	Phenotype data sent
18-09	Health care utilization by survivors of childhood cancer	Hallie Coltin (was Valerie Arsenault)	Weiyu	Yutaka	Analyses complete
18-11	The impact of chronic conditions on the psychosexual function of adult female survivors	Kari Bjornard	Kiri	Kiri	Analyses ongoing
Ancillary	CCSS + SJLIFE: R21 Grant Analysis: Symptoms progress and adverse health outcomes in adult childhood cancer survivors	Huang I-Chan	Mingjuan Wang	Kumar	Analysis ongoing
19-05	Genetic Susceptibility to Neurocognitive Impairment	Michael Scheurer	Pam	Wendy	Phenotype data set sent
Ancillary	Genetic testing to guide pediatric cancer care and followup using anthracycline-associated cardiac toxicity as a model for the future (R01CA227576)	Jennifer Yeh	Kayla	Wendy	Analyses ongoing
19-14	Temporal changes in therapy and neurocognitive outcomes, social attainment, and quality of life in adult survivors of pediatric brain tumors	Tara Brinkman (was Ingrid Toll)	Mengqi	Sedi	Analyses ongoing
19-17	A genome-wide association study for frailty in adult survivors of childhood cancer	Monica Gramatges	Kiri / Wendy	Wendy	Kiri redoing phenotype
19-21	Developing a clinical and genetic risk prediction model for diabetes mellitus	Melissa Richard / Philip Lupo	Pam	Wendy	Phenotype data sent

Concept	Project	Investigator	Stat Center Contact	Secondary/Sr. Statistician	Status
19-09	Paper 2: Outcomes of Adult Survivors of Childhood Astrocytoma and Ependymoma Across Three Decades of Diagnosis and Treatment	Kate Rae / Pete deBlank	Mengqi	Sedi/Kumar	Ependymoma analysis underway
Ancillary	Pooled International Study: Risk Factors for Female Breast Cancer After Treatment for Childhood and Adolescent Cancer	Leontin Kremer / Jop Teeppen	Pam	Local / Wendy	Data sent. 1st paper drafted, Analyses ongoing
20-07	Association of Individual and Neighborhood characteristics and adverse outcomes	Carrie Howell	Rik/Carrie	Kiri/Kumar	Analyses ongoing
20-20	Progression of Late Medical Effects and Impact on Financial Hardship among Adult survivors of childhood cancer	I-Chan Huang	Yan Chen	Yutaka	Analyses ongoing
20-14	Overall and cardiac-specific survival following serious cardiovascular events	Eric Chow	Cindy	Yutaka	Analyses ongoing
20-11	Physical and Psychological Symptom Profiles of Survivors of Childhood Cancer and their Siblings: Links to Health Behaviors and Health Care Utilization ”.	Rachel Tillery	Himani Darji	Kumar	Analyses ongoing
20-16	Late subsequent leukemia after childhood cancer	Lucie Turcotte	Geehong	Kiri	Analysis ongoing
20-21	Body Mass Index and Risk of Subsequent Neoplasms	Lenat Joffe	Himani Darja	Sedi	Analysis ongoing
21-03	Late complications based on local control modalities for childhood pelvic sarcoma	Andrew Murphy	Weiyu	Yutaka	Analyses ongoing
20-25	Does Sex Mediate the Association Between Treatment Exposures and Functional Outcomes?	Rachel Peterson	Yan Chen	Yutaka	Analyses ongoing
20-17	Long-term cost-effectiveness of cancer predisposition syndrome identification strategies in survivors of pediatric leukemia, brain tumors or bone/soft-tissue sarcomas	Catharine Goudie	Kayla	Wendy	Data sent
20-18	Efficacy and cost-effectiveness of the COG long-term follow-up screening guidelines for CCS at risk of colorectal cancer	Van Nghiem	Jillian	Wendy	Data set prep
20-26	Mortality Due to Colorectal Cancer Among Survivors of Childhood Cancer	Ajay Major	Pam	Chaya/Wendy	Data sent
21-04	Updated Epidemiology of Secondary CNS Malignancy Following Radiotherapy Exposure in Childhood Cancer Survivors	Robert Galvin	Yan Chen	Yan Yuan	Analysis ongoing
21-05	Evaluation of Subsequent Meningiomas in Childhood Cancer Survivors	Tabitha Cooney	Yan Chen	Yan Yuan	Analysis ongoing
21-07	Health Insurance Status Experiences Following Implementation of the Patient Protection and Affordable Care Act among Childhood Cancer Survivors and Siblings	Anne Kirchhoff	Qi	Yutaka	Analysis ongoing
20-22	Longitudinal changes in functional independence in aging adult survivors of pediatric brain tumors	Kate Lange	Minjuan	Kumar	Analysis ongoing
21-02	Congenital Anomalies and Chronic Health Conditions	Amanda Janitz	Weiyu	Yutaka	Analysis ongoing

Concept	Project	Investigator	Stat Center Contact	Secondary/Sr. Statistician	Status
21-17	Emotional distress, social resources, and phenotypic aging in adult survivors of childhood cancer	Kelly Rentscher	Fang Wang	Kiri	Analyses ongoing
21-18	Personalized Risk Prediction to Reduce Cardiovascular Disease in Childhood Cancer Survivors	Suman Shrestha	Qi	Yutaka	
12-19	Treatment-specific genetic risk scores for late effects prediction in childhood, adolescent, and young adult cancer survivors	Cindy Im		Cindy Im	Grant funded
21-08	Incidence and Risk Factors for Late Total Joint Arthroplasty	Wayne Cohen-Levy	Himani	Sedi	Initiating analysis
21-11	Nonmelanoma Skin Cancer in Survivors of Childhood Cancer: An Update from the Childhood Cancer Survivor Study	Christina Boull	Yan	Yutaka	Initiating analysis
21-21	Symptom progress and adverse health outcomes in adult childhood cancer survivors	I-Chan Huang	Yan Chen (Aim 2b)	Kumar/Yutaka (Aim 2b)	Grant funded
21-23	Understanding and Improving Health Insurance Coverages Experiences of CCS	Elyse Park	Anne Kirchhoff	Wendy	Grant funded
21-16	Neurocognitive Predictors of Risky Health Behaviors in Pediatric Cancer Survivors: Distress and Pain as Moderators of Later Substance Use	Eleanor Chambers	Weiyu	Yutaka	Analyses ongoing
21-15	Injury-Related Mortality Among Survivors of Childhood Cancer	Ibrahim Qaddoumi/Lubas	Shalini	Sedi	Initiating analysis
21-10	Adherence to surveillance guidelines in survivors of Hodgkin lymphoma	Jamie Shoag	Yan	Yutaka	Initiating analysis
21-12	Financial Hardship Among Adult Survivors of Childhood Cancer that have Undergone Hematopoietic Cell Transplant (HCT)	David Buchbinder	Huiqi/Yan	Yutaka	Initiating analysis
20-08	Genetic Association Study of Cardiac Toxicity Following Chest Radiotherapy	Sarah Kerns	Kayla	Wendy	Initiating data build
20-06	Understanding Coverage Continuity, Healthcare Utilization, and Cost among Childhood Cancer Survivors Within the Medicaid System	Xu Ji	Pam	Wendy	Initiating data build
<b>Data Management</b>					
	Preparing data cleaning programs in anticipation of FU7 data arrival	Jillian Whitton / Kayla Stratton	Aaron / Chris	Wendy	Ongoing Mar 2022
	Merging and reconciling SN data from VPR from participating states with CCSS SNs	Greg Armstrong / Aaron McDonald	Jillian	Wendy	Ongoing Mar 2022
	Created whole cohort treatment and phenotype data sets for uploading to NCI dBGaP	Greg Armstrong	Pam / Jillian / Kayla	Wendy	Nov 2020, Updates Spring 2021
	Creating radiation data set for SJL survivors also in CCSS	Kiri Ness/ Les Robison	Pam	Wendy	Ongoing Jun 2021
	Chronic condition coding updated to include SN data from FU6 survey	Kevin Oeffinger	Kayla Stratton	Wendy	Oct 2020
	Cleaned and froze SN data from FU6 survey	Greg Armstrong / Joe Neglia / Lucie Turcotte	Jillian	Wendy	Aug 2020

Concept	Project	Investigator	Stat Center Contact	Secondary/Sr. Statistician	Status
	Created phenotype data set for St Jude Cloud	Greg Armstrong / Kyla Shelton	Pam / Jillian / Kayla	Wendy	Mar 2020, Adding survey data Jun 2021
	Cleaned and froze survey data from FU6 survey	Greg Armstrong / Aaron McDonald	Jillian Whitton	Wendy	Feb 2020
	Chronic condition coding updated to include mortality data from 2017 NDI	Kevin Oeffinger	Kayla Stratton	Wendy	Jan 2020
	Format and freeze mortality data from 2017 NDI	Aaron McDonald/Greg Armstrong/Joe Neglia	Jillian Whitton	Wendy	Dec 2019
	Expansion cohort surgery records data base freeze	Chris Weldon and others	Jillian Whitton	Wendy	May 2019
	Grading, coding and incorporating chronic conditions reported on FU5 for full cohort	Kevin Oeffinger and others	Kayla Stratton	Wendy	Dec 2018, updated Mar 2019
	Update frozen data set on participation for use in Consort diagrams - include new sites, additional surveys	Kayla Stratton	Kayla/Aaron McDonald	Wendy	Mar 2019
	Chronic condition coding updated to include baseline data for four new sites	Kevin Oeffinger and others	Kayla Stratton	Wendy	Dec 2018, updated March 2019
	Cleaned and prepared for freezing 4 new site MRAF data, pending final data corrections from sites per error checks	Kayla Stratton / Jillian Whitton	Aaron/Chris	Wendy	Dec 2018, updated March 2019
	Cleaned and prepared for freezing 4 new site baseline survey data	Jillian Whitton	Aaron/Chris	Wendy	July 2018
	Cleaned and incorporated SMN data reported through the FU5 survey	Jillian Whitton	Joe/Greg/Lucie	Wendy	May 2018
	Restructured and documented combined MDA Radiation for both cohorts for distribution from Seattle to other analysts	Pam Goodman	Rebecca / Susan	Wendy	May 2018
	Developed participation weights for IPW analyses for each survey and for time-to-event analyses	Kayla Stratton	Wendy		Sep 2017, updated Apr 2021
	Cleaned and incorporated recently reported SMN data	Jillian Whitton	Joe/Greg/Lucie	Wendy	May 2017
	Cleaned and freeze data from FU5 survey	Jillian Whitton	Jillian/Wendy	Greg, Aaron, Chris	May 2017
	New Frozen data set - All expansion, original, siblings, SMN and mortality updates	Jillian Whitton / Kayla Stratton	Pam Goodman	Wendy	Sep 2016
	Modify and share chronic disease SAS program files and documentation with Bhatia BMTSS	Kayla Stratton	Smita and staff	Wendy	Sep 2016; May 2017
	Coding of Expansion Baseline chronic conditions to CTCAE	Kevin Oeffinger and others	Kayla	Wendy	Survivors Completed Jan 2015, Siblings and Mortality Updated Sep 2016
	Creation of frozen data set for DNA samples	Stella Davies	Sue Huang/Lu Lu	Kiri	Data Updated - Jul 2016
	Validation, Cleaning and Freezing of Expansion Cohort SMN	Greg Armstrong / Joe Neglia	Jillian Whitton	Jillian, Aaron,	Completed Apr 2015
	Conversion of SMN data from ICDO-2 to ICDO-3	Greg Armstrong / Joe Neglia	Pam Goodman	Jillian, Wendy	Completed Jan 2015
	Cleaning and freezing of expansion mortality data	Greg Armstrong / Joe Neglia	Pam Goodman	Jillian, Wendy	Completed Nov 2014, Updated Apr 2015

Concept	Project	Investigator	Stat Center Contact	Secondary/Sr. Statistician	Status
	Creation of Frozen data sets for baseline expansion	Jillian Whitton	Jillian/Wendy	Sandrine, Pam, Aaron, Chris	Completed Nov 2014, Updated Apr 2015
	Creation of Frozen data set for expansion MRAF and MDA RT data	Kayla Stratton	Kayla/Pam/Wendy	Wendy, Aaron, Chris	Completed Nov 2014, Updated Apr 2015
	Audit and freeze of audited SMN Data	Jillian Whitton	Joe/Lucie	Wendy	Completed Dec 2012
	Cleaning of Elyse Park RO1 Insurance Study Data	Elyse Park	Jillian/Chris Vukadinovich	Wendy	Most recent freeze May 2013
	Created Frozen data through FU2007 data (Q's, Mortality 2007, SMN)	Jillian Whitton	Kiri/Aaron	Wendy	Data frozen Jan 2011
	CCSS MHQ data error check	Jillian/Chris	Jillian	Kumar/Wendy	Complete
	Creation of Web based Public Use tables	Jim Gurney	Kayla	Jillian	Complete - Tables on St Jude Website
	"Toolbox" variables creation	Jillian Whitton	Jillian	Pam/Kayla/Kristy	Ongoing
	Documentation of all data sets	Jillian Whitton	Pam/Kayla	Wendy	Developing comprehensive documentation for Q'naires
	Creation of Chest RT/ Breast Ca related database	Kevin Oeffinger	Jillian	Wendy	Data set created May 2010
	Creating frozen data set on participation for use in Consort diagrams	Kayla Stratton	Kayla/Aaron McDonald	Wendy	Survivors and siblings complete

# Childhood Cancer Survivor Study (CCSS)

## Presented Abstracts 1997 – 2022

Year	Number
2022	25
2021	19
2020	19
2019	36
2018	29
2017	20
2016	14
2015	25
2014	18
2013	16
2012	14
2011	13
2010	18
2009	6
2008	25
2007	9
2006	14
2005	12
2004	16
2003	6
2002	17
2001	9
2000	2
1999	6
1998	1
1997	1
<b>Total</b>	<b>390</b>

### 2022

**A2201** Papini C, Xing M, Salehabadi SM, Olsson IT, Lange K, de Blank P, Salloum R, Srivastava DK, Leisenring W, Howell R, Oeffinger KC, Robison LL, Armstrong GT, Krull K, Brinkman T. Temporal changes in treatment exposures across three decades, and long-term chronic health conditions and neurocognitive outcomes in adult survivors of pediatric medulloblastoma: a report from the Childhood Cancer Survivor Study (CCSS). International Neuropsychological Society, February 2022, poster presentation.

- A2202** Belle F, Schindera C, Spvcher B, Ansari M, Armstrong GT, Back-Popovic M, Howell R, Leisenring W, Meacham L, Rössler J, Tonorezos E, von der Weir N, Yasui Y, Oeffinger K, Kuehni C. Risk factors for overweight and obesity after childhood Acute Lymphoblastic Leukemia in North America and Switzerland: a comparison of two cohort studies. International Cancer Survivorship Symposium 2022, February 2022, oral presentation.
- A2203** Park ER, Kirchhoff AC, Donelan K, Perez GK, McDonald A, Ponzani C, Foor A, Mann K, Waters A, Leisenring WM, Armstrong GT, Bliss C, Kuhlthau KA. Feasibility of a health insurance navigation program for childhood cancer survivors: an intervention trial in the Childhood Cancer Survivor Study. American Psychosocial Oncology Society, March 2022, oral presentation.
- A2204** Fahmideh MA, Tsavachidis S, Mack SC, Xiangjun X, Armstrong TS, Gilbert MR, Mirabello L, Bhatia S, Leisenring WM, Morton LM, Armstrong GT, Foss-Skiftesvik J, Hagen CM, Bybjerg-Grauholm J, Ghosal M, Bonaventure A, Clavel J, Bondy ML, Amos CI, Scheurer ME. Novel specific susceptibility loci identified for pediatric and adult ependymoma in first histology-specific genome-wide association study. American Association for Cancer Research Annual Meeting, April 2022, poster presentation.
- A2205** Pizzo A, Leisenring W, Whitton J, Jibb L, Flynn J, Krull K, Birnie KA, McDonald A, Nathan P, Robison LL, Stinson JN, Armstrong GT, Alberts NM. Chronic pain and pain interference in adult survivors of childhood cancer. Canadian Pain Society Annual Scientific Meeting, May 2022, poster presentation.
- A2206** Bryce Y, Armstrong GT, Leisenring WM, Whitton J, Chow EJ, Weil B, Dieffenbach B, Howell RM, Oeffinger KC, Nathan PC, Tonorezos ES. Use of carotid ultrasound in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2022, online only.
- A2207** Bhatt NS, Goodman P, Leisenring WM, Armstrong GT, Chow EJ, Hudson MM, Krull KR, Nathan PC, Oeffinger KC, Robison LL, Kirchhoff AC, Mulrooney DA. The relationship between chronic health conditions and employment transitions among survivors of childhood cancer: A report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2022, poster presentation.
- A2208** De Blank PK, Lange KR, Xing M, Mirzaei S, Srivastava K, Brinkman TM, Ness KK, Oeffinger KC, Neglia J, Krull KR, Yasui Y, Nathan P, Howell RM, Turcotte LM, Leisenring WM, Armstrong GT, Okcu MF, Bowers DC. Late mortality and morbidity among adult survivors of childhood glioma treated over three decades: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, June 2022, oral presentation.
- A2209** Dinan M, Stratton K, Leisenring W, Yasui Y, Chow E, Tonorezos ES, Moskowitz C, Yeh J, Noyd D, Armstrong GT, Oeffinger KC. Treatment exposure-based risk-stratification for care of survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, June 2022, poster presentation. International Symposium on Late Complications After Childhood Cancer, July 2022, submitted.
- A2210** Dixon SB, Liu Q, Ehrhardt MJ, Chow EJ, Oeffinger KC, Mertens A, Nathan PC, Howell RM, Leisenring WM, Krull KR, Ness KK, Hudson MM, Robison LL, Yasui Y, Armstrong GT. Modifiable risk factors for late mortality among five-year survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, June 2022, poster discussion.
- A2211** Gibson TM, Karyadi DM, Kapoor V, Arnold MA, Berrington de Gonzalez A, Bhatia S, Conces M, Hartley S, Howell R, Leisenring WM, Neglia JP, Turcotte LM, Yasui Y, Chanock SJ, Armstrong GT, Morton LM. Joint effects of general population polygenic risk scores and radiation treatment on subsequent neoplasm risk among childhood cancer survivors: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2022, oral presentation.
- A2212** Park ER, Kirchhoff AC, Kuhlthau KA, Perez GK, McDonald A, Galbraith AA, Battaglia T, Ponzani C, Foor A, Mann K, Waters A, Leisenring W, Armstrong GT, Bliss C, Wang C, Lopez A, Donelan K. A health insurance navigation intervention tool (HINT) for survivors of childhood cancer: randomized pilot trial results from the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, June 2022, oral presentation.
- A2213** Webster TR, Liu W, McGrady ME, Alberts NM, Brinkman TM, Ness KK, Fuemmeler B, Kunin-Baston AS, Srivastava D, Huang I, Armstrong GT, Howell RM, Green DM, Yasui Y, Krull KR. Symptom profiles and health care utilization in long-term survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2022, online only.
- A2214** Yeh JM, Ward ZJ, Stratton K, Armstrong GT, Chow E, Hudson MM, Morton L, Oeffinger KC, Diller L, Leisenring WM. Improvements in life expectancy among childhood cancer survivors: uneven gains and remaining challenges. American Society of Clinical Oncology Annual Meeting, June 2022, poster presentation.
- A2215** Yeh JM, Seguin CL, Whitton J, Leisenring W, Armstrong GT, Henderson TO, Hudson MM, Nathan PC, Neglia JP, Oeffinger KC, Diller LR, Knudsen AB. Benefits, harms and burden of colorectal cancer screening among childhood cancer survivors previously treated with abdominal-pelvic radiation. American Society of Clinical Oncology Annual Meeting, June 2022, poster presentation.
- A2216** Papini C, Xing M, Salehabadi SM, Olsson IT, Lange K, de Blank P, Salloum R, Srivastava DK, Leisenring WM, Howell RM, Oeffinger KC, Robison LL, Armstrong GT, Krull KR, Brinkman TM. Neurocognitive impairment and functional independence in adult survivors of childhood glioma: a report from the Childhood Cancer Survivor Study (CCSS). International Symposium on Pediatric Neuro-Oncology, June 2022, submitted.

**A2217** De Blank P, Lange K, Xing M, Salehabadi SM, Srivastava D, Brinkman TM, Ness KK, Oeffinger KC, Neglia JP, Krull KR, Yasui Y, Nathan PC, Howell RM, Turcotte LM, Leisenring W, Armstrong GT, Bowers DC, Okcu MF. Late mortality and morbidity of adult survivors of childhood glioma treated across three decades: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, June 2022, oral presentation. International Symposium on Pediatric Neuro-Oncology, June 2022, poster presentation.

**A2218** Withrow DR, Anderson H, Armstrong GT, Hawkins M, Journy N, Neglia JP, de Vathaire F, Ticker MA, Inskip PD, Brenner AV, Stovall MA, Diallo I, Berrington de Gonzalez A, Veiga LHS. Pooled analysis of meningioma risk following treatment for childhood cancer. Brain Tumor Epidemiology Consortium Conference, June 2022, submitted.

**A2219** Owens CA, Rigaud B, Ludmir E, Gupta A, Shrestha S, Paulino AC, Smith SA, Peterson CB, Kry SF, Lee C, Henderson T, Armstrong GT, Brock KK, Howell RM. Development and validation of a population-based anatomical colorectal model for radiation dosimetry in late effects studies of childhood cancer survivors. American Association of Physicists in Medicine Annual Meeting, June 2022, oral presentation.

**A2220** Webster RT, Liu W, McGrady ME, Alberts NM, Brinkman TM, Ness KK, Fuemmeler B, Kunin-Batson AS, Srivastava D, Huang I, Armstrong GT, Howell RM, Green DM, Yasui Y, Krull KR. Symptom burden classes and health care utilization in long-term survivors of Childhood Cancer Survivor Study (CCSS). International Symposium on Late Complications After Childhood Cancer, July 2022, submitted.

**A2221** Belle FN, Schindera C, Ansari M, Armstrong GT, Beck-Popvic M, Howell R, Leisenring W, Meacham LR, Roessler J, Spycher B, Tonorezos E, von der Weid NX, Yasui Y, Oeffinger K, Kuehni CE. Risk factors for overweight and obesity after childhood acute lymphoblastic leukemia in North America and Switzerland: a comparison of two cohort studies. International Symposium on Late Complications After Childhood Cancer, July 2022, submitted.

**A2222** Dixon SB, Liu Q, Ehrhardt MJ, Chow EJ, Oeffinger KC, Mertens A, Nathan PC, Howell RM, Leisenring WM, Krull KR, Ness KK, Hudson MM, Robison LL, Yasui Y, Armstrong GT. Health-related late mortality among aging five-year survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. International Symposium on Late Complications After Childhood Cancer, July 2022, submitted.

**A2223** Lu Z, Baedke J, Yu L, Mostoufi-Moab S, Delany A, Nathan PC, Yasui Y, Chow EJ, Howell RM, Armstrong GT, Bhatia S, Im C, Yuan Y. Predicting age-specific primary ovarian insufficiency risk: A report from the Childhood Cancer Survivor Study (CCSS) and St. Jude Lifetime Cohort Study (SJLIFE). International Symposium on Late Complications After Childhood Cancer, July 2022, submitted.

**A2224** Bhatt NS, Goodman P, Leisenring WM, Armstrong GT, Chow EJ, Hudson MM, Krull KR, Oeffinger KC, Robison LL, Kirchhoff AC, Mulrooney DA. Chronic health conditions lead to negative employment transitions among survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). International Symposium on Late Complications After Childhood Cancer, July 2022, submitted.

**A2225** Webster RT, Liu W, McGrady ME, Alberts NM, Brinkman TM, Ness KK, Fuemmeler B, Kunin-Batson AS, Srivastava D, Huang I, Armstrong GT, Howell RM, Green DM, Yasui Y, Krull KR. Symptom phenotypes, physical inactivity and smoking among long-term survivors of the Childhood Cancer Survivor Study (CCSS). International Society of Paediatric Oncology, September 2022, submitted.

## 2021

**A2101** Ponzani C, Armstrong GT, Battaglia TA, Donelan K, Foor A, Ford J, Galbraith A, Kirchhoff AC, Kuhlthau K, Mann K, McDonald A, Park ER, Perez GK, Leisenring W, Waters A. Designing and targeting a health insurance navigation intervention: a report from the Childhood Cancer Survivor Study. Society of Behavioral Medicine Virtual Conference, April 2021, oral presentation.

**A2102** Wu NL, Chen Y, Dieffenbach BV, Li N, Ehrhardt MJ, Green DM, Hingorani S, Howell RM, Jefferies JL, Mulrooney DA, Oeffinger KC, Robison LL, Weil BR, Yuan Y, Yasui Y, Hudson MM, Leisenring WM, Armstrong GT, Chow EJ. Development and validation of a prediction model for kidney failure in long-term survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2021, poster presentation.

**A2103** Bates JE, Shrestha S, Liu Q, Mulrooney DA, Smith SA, Leisenring WM, Gibson T, Chow EJ, Oeffinger KC, Robison LL, Armstrong GT, Constine LS, Hoppe BS, Lee C, Yasui Y, Howell R. Low dose radiation to cardiac substructures and late onset cardiac disease: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2021, poster discussion presentation.

**A2104** Beckett K, Chen Y, Yasui Y, Phelan R, Chow EJ, Armstrong GT, Oeffinger KC, Daw NC, Weil B, Weldon C, Schwartz CL. Long-term Follow-up of Survivors of Childhood Osteosarcoma (OS): A Report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2021.

**A2105** Bhatt NS, Goodman P, Leisenring WM, Armstrong GT, Chow EJ, Hudson MM, Krull KR, Nathan PC, Oeffinger KC, Robison LL, Kirchhoff AC, Mulrooney DA. Health-related unemployment trends among survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2021, poster presentation.

**A2106** Bottinor W, Im C, Armenian SH, Hong B, Howell RM, Ness KK, Oeffinger KC, Armstrong GT, Yasui Y, Chow EJ. Overall and cardiac-specific mortality following serious cardiovascular events in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2021, poster presentation.

**A2107** Dixon SB, Liu Q, Ehrhardt MJ, Chow EJ, Oeffinger KC, Mertens A, Nathan PC, Howell RM, Leisenring WM, Krull KR, Ness KK, Hudson MM, Robison LL, Yasui Y, Armstrong GT. Mortality among 5-year survivors of childhood cancer: results over five decades of follow-up in the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, June 2021, oral presentation.

**A2108** Friedman D, Goodman PS, Leisenring WM, Diller LR, Cohn S, Tonorezos ES, Howell RM, Smith SA, Wolden SL, Neglia JP, Ness KK, Gibson TM, Nathan PC, Robison LL, Oeffinger KC, Armstrong GT, Sklar CA, Henderson TO. Late morbidity and mortality among survivors of neuroblastoma treated with contemporary therapy: A report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2021, poster presentation.

**A2109** Nathan PC, Huang IC, Chen Y, Henderson T, Park E, Kirchhoff AC, Robison LL, Krull K, Leisenring WM, Armstrong GT, Conti R, Yasui Y, Yabroff R. Financial hardship in adult survivors of childhood cancer: A report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2021, poster discussion presentation.

**A2110** Noyd DH, Li N, Yasui Y, Chow EJ, Bhatia S, Gibson T, Landstrom AP, Gilchrist S, Tonorezos E, Zullig LS, Casillas J, Berkman A, Ness KK, Mulrooney DA, Leisenring WM, Howell C, Shoag J, Kirchhoff A, Howell R, Nathan P, Armstrong GT, Oeffinger KC. Disparities in cardiovascular risk factors by race/ethnicity among adult survivors of childhood cancer: a report from the Childhood Cancer Survivorship Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2021, oral presentation.

**A2111** Philips NS, Stratton KL, Williams A, Liu W, Ahles T, Ness K, Gibson T, Banerjee P, Yasui Y, Oeffinger KC, Chow EJ, Howell R, Robison LL, Armstrong GT, Leisenring W, Krull KR. Accelerated cognitive decline in adult survivors of pediatric central nervous system (CNS) tumors: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2021, poster presentation.

**A2112** Richard MA, Mostoufi-Moab S, Rathore N, Brown AL, Chanock SJ, Friedman DN, Gramatges MM, Howell RM, Kamdar KY, Leisenring W, Meacham LR, Morton LM, Oeffinger K, Robison LL, Sapkota Y, Sklar C, Yasui Y, Armstrong GT, Bhatia S, Lupo PJ. Genetic and treatment risks for diabetes mellitus (DM) in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS) and St. Jude Lifetime (SJLIFE) cohorts. American Society of Clinical Oncology Annual Meeting, June 2021, oral presentation.

**A2113** Schulte F, Chen Y, Yasui Y, Leisenring WM, Gibson TM, Nathan P, Oeffinger KC, Hudson MM, Armstrong GT, Robison LL, Krull KR, Huang IC. Predicting decreased health-related quality of life (HRQL) in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2021, submitted.

**A2114** Tonorezos ES, Clark JM, Moskowitz CS, Ford JS, Armstrong GT, Chou J, Mubdi N, McDonald A, Sklar CA, Ramanathan L, Robison LL, Oeffinger KC. Exercise and QUALity diet After Leukemia (The EQUAL Study): An intervention trial in the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2021, oral presentation.

**A2115** Wang A, Chen Y, Yasui Y, Stock W, Leisenring W, Armstrong GT, Oeffinger KC, Chow E, Krull K, Henderson T. Neurocognitive Outcomes in Survivors of Early Adolescent and Young Adult (eAYA) Hematologic Cancers from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2021, poster discussion presentation.

**A2116** Wong FL, Lee JM, Leisenring WM, Neglia JP, Howell RM, Smith SA, Oeffinger KC, Moskowitz CS, Henderson TO, Mertens A, Nathan PC, Yasui Y, Landier W, Armstrong GT, Robison LL, Bhatia S. Efficacy of clinical breast examination (CBE) in chest-irradiated female survivors of childhood Hodgkin lymphoma (HL). American Society of Clinical Oncology Annual Meeting, June 2021, poster discussion presentation.

**A2117** Shrestha S, Bates JE, Liu Q, Smith SA, Mulrooney DA, Gupta AC, Owens CA, Leisenring WM, Gibson T, Chow EJ, Oeffinger KC, Robison LL, Armstrong GT, Constine LS, Hoppe BS, Lee C, Court LE, Kry SF, Yasui Y, Howell R. Relationship between coronary artery radiation doses and risk of late coronary artery disease: a report from the Childhood Cancer Survivor Study (CCSS). American Association of Physicist in Medicine (AAPM) Annual Meeting 2021, July 2021, oral presentation.

**A2118** Bates JE, Shrestha S, Liu Q, Smith SA, Mulrooney DA, Leisenring W, Gibson T, Robison LL, Chow EJ, Oeffinger KC, Armstrong GT, Constine LS, Hoppe BS, Lee C, Yasui Y, Howell R. Cardiac substructure dosimetry and late cardiac arrhythmia in the Childhood Cancer Survivor Study (CCSS). European Society of Radiotherapy & Oncology Meeting, August 2021, oral presentation.

**A2119** Bates JE, Shrestha S, Liu Q, Smith SA, Mulrooney DA, Leisenring W, Gibson T, Robison LL, Chow E, Oeffinger KC, Armstrong GT, Constine LS, Hoppe BS, Lee C, Yasui Y, Howell R. Impact of cardiac substructure dosimetry on late cardiac risk: a report from the Childhood Cancer Survivor Study (CCSS). American Society for Radiation Oncology, October 2021, oral presentation.

## 2020

**A2001** Zhou X, Bhakta N, Wang J, Sioson E, Patel J, Shelton K, Wang Z, Lei S, Gout AM, Wilson CI, Leisenring W, Bhatia S, Yasui Y, Hudson MM, Armstrong GT, Robison LL, Zhang J. The St. Jude survivorship portal links whole-genome genetic data with clinical therapy and outcome phenotypes for 7302 pediatric cancer survivors. American Association for Cancer Research Annual Meeting, April 2020, poster presentation.

- A2002** Alberts NM, Moraveji N, Leisenring W, Flynn JS, Gibson TM, Krull KR, Jibb L, Birnie K, Dear BF, Robison LL, Stinson JN, Armstrong GT. Feasibility and acceptability of a wearable respiration-sensing device for supporting pain management in adult survivors of childhood cancer with chronic pain. Canadian Pain Society Annual Meeting, May 2020, Canceled.
- A2003** Morales S, Salehabadi SM, Srivastava D, Gibson TM, Leisenring WM, Lown EA, Zeltzer LK, Armstrong GT, Krull KR, Buchbinder D. Health and cancer concerns among siblings of childhood cancer survivors: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, May 2020, poster presentation.
- A2004** Ghosh T, Chen Y, Dietz AC, Armstrong GT, Howell RM, Mulrooney DA, Turcotte LM, Yuan Y, Yasui Y, Neglia JP. Lung cancer as a subsequent neoplasm: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, May 2020, poster presentation.
- A2005** Keefe KW, Lanes A, Stratton K, Green DM, Chow EJ, Oeffinger KC, Barton S, Diller L, Yasui Y, Leisenring WM, Armstrong GT, Ginsberg ES. Assisted reproductive technology outcomes in childhood cancer survivors: a report from the Childhood Cancer Survivors Study. American Society of Clinical Oncology Annual Meeting, May 2020, poster presentation.
- A2006** Trendowski MR, Baedke J, Sapkota Y, El-Charif O, Wheeler HE, Leisenring WM, Robison LL, Hudson MM, Morton L, Oeffinger KC, Travis LB, Howell RM, Yasui Y, Armstrong GT, Bhatia S, Dolan ME. Clinical and genetic factors for radiation-associated ototoxicity: a report from the Childhood Cancer Survivor Study and the St. Jude Lifetime cohort. American Society of Clinical Oncology Annual Meeting, May 2020, poster presentation.
- A2007** Chow EJ, Chen Y, Armstrong GT, Baldwin L, Gibson TM, Hudson MM, McDonald A, Nathan PC, Syrjala K, Tonorezos ES, Oeffinger KC, Yasui Y. Underdiagnosis and undertreatment of modifiable cardiovascular risk factors: a Childhood Cancer Survivor Study (CCSS) report. American Society of Clinical Oncology Annual Meeting, May 2020, oral presentation.
- A2008** Im C, Li N, Moon W, Morton LM, Leisenring WM, Howell RM, Oeffinger KC, Sklar CA, Wilson CL, Sapkota Y, Ness KK, Hudson MM, Robison LL, Bhatia S, Armstrong GT, Yasui Y. HAGHL genetic variants increase first fracture risk (FFR) in female childhood cancer survivors: a report from the Childhood Cancer Survivor Study (CCSS) and St. Jude Lifetime cohort study (SJLIFE). American Society of Clinical Oncology Annual Meeting, May 2020, poster presentation.
- A2009** Rodwin RL, Chen Y, Yasui Y, Leisenring WM, Gibson TM, Nathan PC, Howell RM, Krull KR, Mohrmann C, Hayashi RJ, Chow EJ, Oeffinger KC, Armstrong GT, Ness KK, Kadan-Lottick NS. Neuromuscular dysfunction and associated health/socioeconomic outcomes: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, May 2020, poster presentation.
- A2010** Weil BR, Green DM, Murphy AJ, Lui Q, Howell RM, Weldon CB, Mullen EA, Madenci AL, Leisenring WM, Neglia JP, Oeffinger KC, Termuhlen AM, Mostoufi-Moab S, Levine JM, Krull KR, Yasui Y, Robison LL, Armstrong GT, Chow EJ, Armenian S. Treatment intensity and risk of chronic health conditions and late mortality among long-term survivors of Wilms tumor: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, May 2020, poster presentation.
- A2011** Clerkin CM, Armstrong GT, Gibson TM, Skinner K, Engels E, Yu K. Where are we now? Virtual Pooled Registry Cancer Linkage System pilot testing progress. North American Association of Central Cancer Registries Webinar, September 2020, oral presentation.
- A2012** Shrestha S, Liu Q, Bates J, Yasui Y, Gupta A, Owens C, Smith S, Weathers R, Lee C, Hoppe B, Leisenring W, Oeffinger K, Constine L, Mulrooney D, Armstrong G, Howell R. Impact of enhanced CT-based heart model on estimating radiation therapy related late-onset cardiac disease in the Childhood Cancer Survivor Study. The Joint AAPM / COMP Joint Meeting, July 2020, poster presentation.
- A2013** Alberts NM, Leisenring WM, Whitton J, Krull KR, Flynn JS, Moraveji N, Jibb L, Dear BF, Robison LL, Stinson JN, Armstrong GT. Respiratory monitoring and feedback for chronic pain in adult survivors of childhood cancer: a mobile health pilot study from the Childhood Cancer Survivor Study. International Society of Paediatric Oncology Annual Meeting, October 2020, poster presentation.
- A2014** Henderson TO, Liu Q, Turcotte LM, Oeffinger K, Neglia JP, Leisenring WM, Hodgson D, Diller L, Kenney L, Morton L, Berrington de Gonzalez A, Arnold M, Bhatia S, Howell R, Smith S, Robison LL, Armstrong GT, Yasui Y, Moskowitz CS. Breast cancer risk by treatment era: a report from the Childhood Cancer Survivor Study (CCSS). International Society of Paediatric Oncology Annual Meeting, October 2020, oral presentation.
- A2015** Huang I, Ehrhardt MJ, Liu W, Li C, Mulrooney DA, Chemitilly W, Srivastava D, Armstrong GT, Robison LL, Hudson MM, Krull KR. Longitudinal symptoms predict future clinically assessed chronic health conditions (CHCs) in adult survivors of childhood cancer: a follow-up study over two decades. International Society of Paediatric Oncology Annual Meeting, October 2020, oral presentation.
- A2016** Flasch DA, Davis E, Rice SV, Mulder H, Mostafavi R, Wilson CL, Easton J, Nichols KE, Wang Z, Armstrong GT, Yasui Y, Robison LL, Hudson MM, Zhang J. Germline pathogenic structural variants in 8,400 whole genomes of pediatric cancer patients and survivors. American Society of Human Genetics Annual Meeting, October 2020, oral presentation.

**A2017** Lee O, Lin S, Luo W, Jones K, Brown DK, Hoover R, Armstrong GT, Bhatia S, Robison LL, Freedman N, Morton L, Chanock S, Delattre O, Grunewald T, Machiela M. Targeted long-read sequencing of the Ewing sarcoma 6p25.1 susceptibility locus identifies polymorphic GGAA microsatellite associated with EWSR1-FLI1 fusion binding. American Society of Human Genetics Annual Meeting, October 2020, oral presentation.

**A2018** Kim J, Hartley SW, Kayardi DM, Wang M, Wu D, Song L, Zhu B, Armstrong GT, Bhatia S, Robison LL, Yasui Y, Carter B, Freedman N, Chanock SJ, Morton LM, Savage SA, Stewart DR. Toward understanding inflated type I errors in rare-variant analyses using publicly available sequence resources. American Society of Human Genetics, October 2020, poster presentation.

**A2019** Williams A, Xing M, Phillips N, Yasui Y, Ehrhardt MJ, Howell R, Oeffinger K, Gibson T, Chow EJ, Leisenring WM, Mirzaei S, Srivastava DK, Robison LL, Armstrong GT, Krull K. Prevalence and predictors of neurocognitive impairment in long-term survivors of childhood Hodgkin lymphoma: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Hematology Annual Meeting & Exposition, December 2020, oral presentation.

## 2019

**A1901** Barlow-Krelina E, Chen Y, Yasui Y, Gibson T, Ness K, Leisenring WM, Howell R, Nathan P, Oeffinger KC, Robison LL, Armstrong GT, Krull KR, Edelstein K. Physical activity and neurocognitive outcomes in adult survivors of childhood cancers: a report from the Childhood Cancer Survivor Study (CCSS). International Neuropsychology Society Annual Meeting, February 2019, poster presentation; North American Symposium on Late Complications after Childhood Cancer, June 2019, poster presentation.

**A1902** Gramatges MM, Aubert G, Hariri E, Chen Y, Whitton JA, Leisenring WM, Arnold MA, Neglia JP, Yasui Y, Robison LL, Armstrong GT, Bhatia S. Shorter naïve T cell telomere length is associated with thyroid subsequent malignant neoplasm: a report from the Childhood Cancer Survivor Study (CCSS). American Association for Cancer Research Annual Meeting, March 2019, poster presentation; North American Symposium on Late Complications after Childhood Cancer, June 2019, poster.

**A1903** Wang Z, Chang TC, Wilson CL, Kesserwan CA, Gibson TM, Li N, Easton J, Mulder H, Wu G, Edmonson MN, Rusch MC, Downing JR, Nichols KE, Bhatia S, Armstrong GT, Hudson MM, Zhang J, Yasui Y, Robison LL. Germline mutations in BRCA2 and pediatric/adolescent non-Hodgkin's Lymphoma: a report from the St. Jude Lifetime (SJLIFE) and Childhood Cancer Survivor Study (CCSS) cohorts. American Association for Cancer Research Annual Meeting, March 2019, poster presentation.

**A1904** Richard MA, Lupo PJ, Morton LM, Yasui Y, Arnold MA, Neglia JP, Turcotte LM, Leisenring WM, Chanock SJ, Sampson JN, Armstrong GT, Robison LL, Bhatia S, Gramatges MM. A functional POT1 variant and risk of thyroid subsequent malignant neoplasm: a report from the Childhood Cancer Survivor Study. American Association for Cancer Research Annual Meeting, March 2019, poster presentation.

**A1905** Howell R, Bates J, Qi L, Hoppe B, Lee C, Smith SC, Oeffinger KC, Constance LS, Leisenring WM, Mulrooney DA, Gibson TM, Armstrong GT, Yasui Y. Effect of heart anatomy on radiation related cardiac risk in the Childhood Cancer Survivor Study. European Society for Radiotherapy & Oncology 38<sup>th</sup> Meeting, April 2019, oral presentation.

**A1906** Arsenault V, Qiu W, Liu Q, Yeh J, Leisenring W, Ness KK, Armstrong GT, Henderson TO, Walsh A, Yabroff KR, Oeffinger KC, Hudson MM, Yasui Y, Nathan PC. Emergency department (ED) visits and hospitalizations in survivors of childhood cancer in the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, June 2019, poster presentation; North American Symposium on Late Complications after Childhood Cancer, June 2019, poster presentation.

**A1907** Wang X, Chen Y, Hageman L, Singh P, Landier W, Blanco JG, Hawkins D, Ritchey AK, Ginsberg J, Winick N, Sapkota Y, Morton L, Armstrong GT, Oeffinger K, Hudson MM, Chow EJ, Robison LL, Relling MV, Bhatia S. Risk prediction of anthracycline-related cardiomyopathy (AC) in childhood cancer survivors (CCS): a COG-ALTE03N1 and CCSS report. American Society of Clinical Oncology Annual Meeting, June 2019, oral presentation; North American Symposium on Late Complications after Childhood Cancer, June 2019, oral presentation.

**A1908** Friedman DN, Goodman PS, Leisenring WM, Diller LR, Cohn S, Tonorezos ES, Howell RM, Smith SA, Wolden SL, Neglia JP, Ness KK, Gibson TM, Nathan PC, Robison LL, Oeffinger KC, Armstrong GT, Sklar CA, Henderson TO. Long term morbidity and mortality among survivors of infant neuroblastoma: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2019, poster presentation; North American Symposium on Late Complications after Childhood Cancer, June 2019, poster presentation.

**A1909** Dieffenbach BV, Li N, Madenci AL, Barnea D, Murphy AJ, Tonorezos ES, Gibson TM, Liu Q, Yasui Y, Leisenring WM, Howell RM, Diller LR, Armstrong GT, Oeffinger KC, Weldon CB, Weil BR. Late cholecystectomy in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, June 2019, poster presentation; North American Symposium on Late Complications after Childhood Cancer, June 2019, poster presentation.

**A1910** Dixon SB, Chen Y, Yasui Y, Pui C, Hunger S, Silverman L, Green D, Kadan-Lottick N, Ness KK, Leisenring W, Howell RM, Oeffinger K, Neglia J, Krull KR, Hudson MM, Robison LL, Mertens A, Armstrong GT, Nathan P. Chronic health conditions (CHC) and late mortality in survivors of Acute Lymphoblastic Leukemia (ALL) in the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, June 2019, oral presentation; North American Symposium on Late Complications after Childhood Cancer, June 2019, oral presentation.

**A1911** Ehrhardt MJ, Ward ZJ, Liu Q, Chaudhry A, Nohria A, Border W, Robison LL, Armstrong GT, Yasui Y, Hudson MM, Diller LR, Armenian SH, Yeh JM. Cost-effectiveness of screening guidelines to prevent heart failure in childhood cancer survivors: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2019, poster presentation; North American Symposium on Late Complications after Childhood Cancer, June 2019, oral presentation. International Society of Paediatric Oncology Annual Meeting, October 2019, oral presentation.

**A1912** Fidler MM, Oeffinger KC, Yasui Y, Winter DL, Leisenring W, Robison LL, Reulen RC, Chen Y, Armstrong GT, Hawkins MM. Comparing late mortality risks among childhood cancer survivors: a report from the Childhood Cancer Survivor Study and British Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, June 2019, oral presentation; North American Symposium on Late Complications after Childhood Cancer, June 2019, oral presentation.

**A1913** Hayek S, Gibson TM, Leisenring WM, Guida JL, Gramatges MM, Lupo PJ, Howell RM, Oeffinger KC, Bhatia S, Edelstein K, Hudson MM, Robison LL, Nathan PC, Yasui Y, Krull KR, Armstrong GT, Ness KK. Frailty among childhood cancer survivors: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2019, poster presentation; North American Symposium on Late Complications after Childhood Cancer, June 2019, oral presentation.

**A1914** Hesko C, Liu W, Srivastava D, Brinkman TM, Diller L, Gibson TM, Oeffinger KC, Leisenring W, Howell RM, Armstrong GT, Krull KR, Henderson TO. Neurocognitive outcomes in adult survivors of neuroblastoma: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, June 2019, poster presentation; North American Symposium on Late Complications after Childhood Cancer, June 2019, poster presentation.

**A1915** Hingorani P, Wang M, Srivastava K, Nathan P, Oeffinger K, Yasui Y, Leisenring W, Howell R, Mueller E, Gibson T, Wolden S, Bjornard K, Meyer WH, Arndt C, Robison LL, Green D, Armstrong GT, Ness KK. Temporal trends among survivors of rhabdomyosarcoma: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2019, poster presentation.

**A1916** Morton LM, Karyadi DM, Hartley S, Frone M, Sampson JN, Howell R, Neglia JP, Arnold MA, Dagnall CL, Hicks B, Jones K, Zhu B, Leisenring WM, Yasui Y, Berrington de González A, Bhatia S, Robison LL, Tucker MA, Armstrong GT, Chanock SJ. Subsequent neoplasm risk associated with rare variants in DNA repair and clinical radiation sensitivity syndrome genes: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, June 2019, poster presentation; North American Symposium on Late Complications after Childhood Cancer, June 2019, oral presentation.

**A1917** Moskowitz CS, Chou JF, Ronckers CM, Smith SA, Novetsky Friedman D, Barnea D, Wolden SL, Henderson TO, van der Pal HJH, Kremer LCM, Turcotte LM, Howell RM, Arnold MA, Leisenring WM, Begg CB, Robison LL, Pike MC, Armstrong GT, van Leeuwen FE, Oeffinger KC. Predicting breast cancer risk in childhood cancer survivors treated with chest radiation: a report from the Childhood Cancer Survivor Study (CCSS), and the Dutch Hodgkin Late Effects and DCOG-LATER Cohorts. North American Symposium on Late Complications after Childhood Cancer, June 2019, oral presentation.

**A1918** Mulrooney DA, Hyun G, Ness KK, Ehrhardt MJ, Yasui Y, Duprez DA, Howell R, Leisenring WM, Constone LS, Oeffinger KC, Gibson TM, Tonorezos E, Robison LL, Hudson MM, Armstrong GT. Reduction in cardiac events for survivors of childhood cancer treated in more recent eras: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, June 2019, poster presentation; North American Symposium on Late Complications after Childhood Cancer, June 2019, oral presentation.

**A1919** Sapkota Y, Liu Q, Shelton K, Wang X, Wilson CL, Wang Z, Mulrooney DM, Jefferies JL, Oeffinger KC, Morton LM, Zhang J, Armstrong GT, Bhatia S, Hudson MM, Robison LL, Yasui Y. Genome-wide association study using whole-genome sequencing identifies a novel locus associated with increased risk of cardiomyopathy in adult survivors of childhood cancer: utility of a 2-stage analytic approach. American Society of Clinical Oncology Annual Meeting, June 2019, poster presentation; North American Symposium on Late Complications after Childhood Cancer, June 2019, poster presentation.

**A1920** Veiga LH, Curtis RE, Morton LM, Withrow DR, Howell RM, Smith SA, Weathers RE, Oeffinger KC, Moskowitz CS, Henderson TO, Arnold MA, Gibson TM, Leisenring WM, Neglia JP, Turcotte LM, Whitton JA, Robison LL, Armstrong GT, Inskip PD, Berrington de Gonzalez A. Combined effect of radiotherapy and anthracyclines on risk of breast cancer risk among female childhood cancer survivors: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2019, poster presentation.

**A1921** Wang Z, Liu Q, Wilson CL, Sapkota Y, Gibson T, Morton LM, Sampson J, Neglia J, Arnold MA, Rusch MC, Mulder H, Easton J, Zhang J, Downing JR, Bhatia S, Armstrong GT, Chemaillilly W, MD1, Hudson MM, Robison LL, Yasui Y. Polygenic risk of subsequent thyroid cancer after childhood cancer: a report from St. Jude Lifetime Cohort (SJLIFE) and Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2019, poster presentation.

**A1922** Yeh JM, Lowry K, Schechter C, Diller LR, Alagoz O, Armstrong GT, Hampton JM, Leisenring W, Liu Q, Mandelblatt J, Miglioretti DL, Moskowitz C, Oeffinger KC, Trentham-Dietz A, Stout NK. Clinical outcomes and cost-effectiveness of breast cancer screening for childhood cancer survivors treated with chest radiation: a comparative modeling study. American Society of Clinical Oncology Annual Meeting, June 2019, poster presentation; North American Symposium on Late Complications after Childhood Cancer, June 2019, oral presentation.

**A1923** Bashore L, Li C, Merchant Z, McDonald AJ, Lupo PJ, King A, Hamby T, Srivastava D, Leisenring WM, Howell RM, Gibson TM, Oeffinger KC, Armstrong GT, Bowman WP, Krull KR. Educational attainment in long-term survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). North American Symposium on Late Complications after Childhood Cancer, June 2019, poster presentation.

**A1924** Gilleland-Marchak J, Seidel KD, Ritenour CWM, Leisenring W, Mertens AC, Sklar CA, Ford J, Krull KR, Stovall M, Robison LL, Armstrong GT, Meacham LR. Sexual functioning among male survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). North American Symposium on Late Complications after Childhood Cancer, June 2019, oral presentation.

**A1925** Kamdar KY, Richard MA, Brown AL, Arroyo VM, Belmont JW, Scheurer ME, Foster KL, Kern KD, Hudson MM, Leisenring WM, Okcu MF, Yasui Y, Morton LM, Chanock SJ, Robison LL, Armstrong GT, Bhatia S, Oeffinger KC, Lupo PJ. A genome-wide association study (GWAS) of body mass index (BMI) in adult survivors of childhood acute lymphoblastic leukemia (ALL): a report from the Childhood Cancer Survivor Study (CCSS) and St. Jude Lifetime Cohort (SJLIFE). North American Symposium on Late Complications after Childhood Cancer, June 2019, poster presentation.

**A1926** Madenci AL, Dieffenbach BV, Liu Q, Yoneoka D, Knell J, Gibson TM, Yasui Y, Leisenring WM, Howell RM, Diller LR, Krull KR, Armstrong GT, Oeffinger KC, Murphy AJ, Weil BR, Weldon CB. Late-onset anorectal disease and psychosocial impact in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. North American Symposium on Late Complications after Childhood Cancer, June 2019, oral presentation.

**A1927** Rathore N, Richard M, Armstrong G, Brown A, Friedman D, Hanis C, Kamdar K, Leisenring W, Machiela M, Meacham L, Morton L, Mostoufi-Moab S, Chanock S, Oeffinger K, Robison L, Scheet P, Sklar C, Yasui Y, Bhatia S, Lupo P. Population-based genetic risk loci and the risk for diabetes mellitus in the Childhood Cancer Survivor Study (CCSS). North American Symposium on Late Complications after Childhood Cancer, June 2019, oral presentation.

**A1928** Weinstein AG, Henrich CC, Armstrong GT, Stratton KL, Leisenring WM, Krull KR. Positive psychological outcomes for pediatric cancer survivors: a report from the Childhood Cancer Survivor Study (CCSS). North American Symposium on Late Complications after Childhood Cancer, June 2019, poster presentation.

**A1929** Clark RA, Vu NK, Lu Z, Yasui Y, Mostoufi-Moab S, Sklar C, Howell R, Hudson MM, Gibson T, Oeffinger KC, Armstrong GT, Nathan P, Yuan Y. Predicting acute ovarian failure in female childhood cancer survivors: a report from the Childhood Cancer Survivor Study (CCSS). North American Symposium on Late Complications after Childhood Cancer, June 2019, oral presentation.

**A1930** van der Plas E, Qiu W, Nieman B, Yasui Y, Liu Q, Dixon S, Kadan-Lottick N, Jacola L, Gibson T, Leisenring W, Oeffinger K, Hudson M, Robison L, Armstrong GT, Krull KR. Associations between chemotherapy exposures, chronic conditions and neurocognitive impairments in pediatric ALL survivors treated with chemotherapy only vary with sex: a report from the Childhood Cancer Survivor Study (CCSS). North American Symposium on Late Complications after Childhood Cancer, June 2019, poster presentation.

**A1931** Ehrhardt MJ, Chen Y, Sandlund JT, Bluhm EC, Hayashi RJ, Bechtel K, Leisenring WM, Metzger ML, Ness KK, Krull KR, Oeffinger KC, Gibson TM, Cairo MS, Gross TG, Robison LL, Armstrong GT, Yasui Y, Hudson MM, Mulrooney DA. Late health outcomes following contemporary Lymphome Malin de Burkitt therapy for mature B-cell non-Hodgkin lymphoma: a report from the Childhood Cancer Survivor Study. North American Symposium on Late Complications after Childhood Cancer, June 2019, poster presentation.

**A1932** Alberts NM, Krull KR, Leisenring W, Gibson TM, Olgin JE, Jibb L, Birnie K, Robison LL, Stinson JN, Armstrong GT. Leveraging mHealth to examine chronic pain in the Childhood Cancer Survivor Study. International Psycho-Oncology Society Annual Meeting, September 2019, poster presentation.

**A1933** Gianferante M, Kim J, Karyadi D, Hartley S, Frone M, Robison LL, Armstrong GT, Bhatia S, Dean M, Yeager M, Zhu B, Song L, Brodie SA, de Andrade K, Forte F, Goldstein A, Khincha PP, Machiela MJ, McMaster ML, Nickerson ML, Oba L, Pemov A, Pinheiro M, Rotunno M, Santiago K, Wegman-Ostrosky T, Hicks BD, Zhu B, Wang M, Jones K, Hutchinson AA, Dagnall C, Tucker M, Morton L, Chanock SJ, Savage SA, Stewart DR, Mirabello L. Frequency of pathogenic germline variation in pediatric pan-cancer survivors: a report from the Childhood Cancer Survivor Study (CCSS). American Society for Human Genetics Annual Meeting, October 2019, Submitted.

**A1934** Dixon SB, Chen Y, Yasui Y, Pui C, Hunger S, Silverman L, Green D, Kadan-Lottick N, Ness KK, Leisenring W, Howell RM, Oeffinger K, Neglia J, Krull KR, Hudson MM, Robison LL, Mertens A, Armstrong GT, Nathan P. Effect of risk-stratified therapy on health status and sociodemographic outcomes in survivors of acute lymphoblastic leukemia (ALL) in the Childhood Cancer Survivor Study. International Society of Paediatric Oncology Annual Meeting, October 2019, poster presentation.

**A1935** Gramatges MM, Aubert G, Hariri E, Chen Y, Whitton JA, Leisenring WM, Arnold MA, Neglia JP, Yasui Y, Robison LL, Armstrong GT, Bhatia S. Naïve t cell immunosenscence associated with thyroid subsequent malignant neoplasm in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. International Society of Paediatric Oncology Annual Meeting, October 2019, oral presentation.

**A1936** Bagherzadeh-Khiabani F, Krull KR, Armstrong GT, Hudson MM, Robison LL, Yasui Y, Huang IC. Prediction of health-related quality of life from longitudinal self-reported symptom patterns in adult survivors of childhood cancer. Neural Information Processing Systems Conference, December 2019, poster presentation.

## 2018

**A1801** Lupo PJ, Morton LM, Yasui Y, Leisenring WM, Armstrong GT, Robison LL, Bhatia S, Gramatges MM. Telomere length-associated genetic variants and the risk of thyroid cancer after childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). American Association for Cancer Research Annual Meeting, April 2018, poster presentation.

**A1802** Lupo PJ, Morimoto L, Karlins E, Shao X, Morton LM, Scheurer ME, Bhatia S, Robison LL, Armstrong GT, Hettmer S, Khan J, Chanock SJ, Freedman ND, Wyatt K, Hicks BD, Dangall CL, Li SA, Yeager M, Skapek SX, Hawkins DS, Metayer C, Mirabello L. A genome-wide scan identifies a new locus association with pediatric rhabdomyosarcoma. American Association for Cancer Research Annual Meeting, April 2018, oral presentation.

**A1803** Machiela MJ, Grünewald TGP, Surdez D, Reynaud S, Mirabeau O, Karlins E, Rubio RA, Zaidi S, Grossetete-Lalami, Ballet S, Lapouble E, Laurence V, Michon J, Pierron G, Kovar H, Gaspar N, Kontry U, González-Neira A, Picci P, Alonso J, Patino-Garcia A, Corradini N, Freedman ND, Rothman N, Dangall CL, Burdett L, Jones K, Manning M, Wyatt K, Zhou W, Yeager M, Cox DG, Hoover RN, Khan J, Armstrong GT, Leisenring WM, Bhatia S, Robison LL, Dirksen U, Metzler M, Hartmann W, Strauch K, Kirchner T, Kulozik AE, Morton LM, Mirabello L, Tucker MA, Tirode F, Chanock SJ, Delattre O. Multiple new susceptibility loci identified in genome-wide association study of Ewing sarcoma. American Association for Cancer Research Annual Meeting, April 2018, oral presentation.

**A1804** Stefanski K, Anixt J, Goodman P, Bowers K, Leisenring W, Baker S, Burns K, Howell R, Davies S, Armstrong GT, Krull K, Recklitis C. Neurocognitive, emotional, and quality of life outcomes in survivors of pediatric acute myeloid leukemia: a report from the Childhood Cancer Survivor Study (CCSS). Pediatric Academic Societies Annual Meeting, May 2018, oral presentation.

**A1805** Daniel L, Wang M, Srivastava D, Schwartz L, Brinkman T, Edelstein K, Mulrooney D, Zhou E, Howell R, Gibson T, Leisenring W, Armstrong GT, Krull K. Sleep behavior patterns in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). Associated Professional Sleep Societies Annual Meeting, June 2018, oral presentation.

**A1806** DeSisto J, Lucas JT, Donson A, Sanford B, Wu G, Armstrong GT, Arnold M, Bhatia S, Flannery P, Lemma R, Hardie L, Hoffman L, Dorris K, Lui A, Foreman N, Vibhakar R, Jones K, Allen S, Baker SJ, Merchant TE, Orr MB, Green AI. Comprehensive molecular characterization of pediatric treatment-induced glioblastoma: germline DNA repair defects as a potential etiology. 18th International Symposium on Pediatric Neuro-Oncology, June 2018, oral presentation.

**A1807** Scott JM, Li N, Liu Q, Yasui Y, Leisenring W, Nathan PC, Gibson T, Armemian SH, Nilsen TS, Oeffinger KC, Ness KK, Adams SC, Robison LL, Armstrong GT, Jones LW. Association of exercise with late mortality in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, June 2018, oral presentation.

**A1808** de Blank P, Li N, Ulrich N, Fisher MJ, Bhatia S, Yasui Y, Sklar C, Leisenring W, Howell R, Oeffinger K, Hardy K, Okcu MF, Gibson T, Robison LL, Armstrong GT, Krull K. Neurofibromatosis type 1 and risk of late outcomes after a primary tumor: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, June 2018 poster presentation; 18th International Symposium on Pediatric Neuro-Oncology Annual Meeting, June 2018, oral presentation.

**A1809** Yan AP, Chen Y, Hudson MM, Gibson TM, Neglia P, Oeffinger KC, Leisenring WM, Ness KK, Ford J, Henderson TO, Robison LL, Armstrong GT, Yasui Y, Nathan PC. Impact of survivorship care plans (SCPs) on adherence to surveillance for second malignant neoplasms (SMNs) and cardiac dysfunction in the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2018, poster presentation.

**A1810** Dixon S, Li N, Yasui Y, Bhatia S, Casillas JN, Gibson TM, Leisenring W, Ness KK, Porter J, Robison LL, Hudson MM, Krull KR, Armstrong GT. Racial/Ethnic differences in neurocognitive, emotional and quality of life outcomes in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2018, poster presentation.

**A1811** Friedman DN, Hilden P, Moskowitz CS, Howell R, Weathers RE, Smith SA, Wolden SL, Tonorezos ES, Mostoufi-Moab S, Chow EJ, Meacham LR, Whitton JA, Leisenring WM, Robison LL, Armstrong GT, Oeffinger KC, Sklar CA. Radiation dose and volume to the pancreas and subsequent risk of diabetes mellitus: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, June 2018, poster presentation.

**A1812** Tonorezos ES, Ford JS, Wang L, Ness KK, Yasui Y, Leisenring W, Sklar CA, Robison LL, Oeffinger KC, Nathan PC, Armstrong GT, Krull K, Jones LW. Impact of exercise on psychological burden, quality of life, and cognitive dysfunction in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2018, oral presentation.

**A1813** Moskowitz CS, Chou J, Neglia JP, Howell RM, Diller LR, Partridge AH, Leisenring WL, Armstrong GT, Robison LL, Oeffinger KC, Henderson TO. Mortality following breast cancer in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, June 2018, oral presentation.

**A1814** Turcotte L, Liu Q, Yasui Y, Henderson TO, Gibson T, Leisenring WM, Arnold M, Howell R, Green D, Armstrong GT, Robison LL, Neglia J. Subsequent malignant neoplasms (SMNs) among non-irradiated survivors of childhood cancer treated with chemotherapy in the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, June 2018, oral presentation.

**A1815** Huang IC, Ehrhardt MJ, Li C, Mulrooney DA, Chemaitilly W, Srivastava D, Armstrong GT, Robison LL, Hudson MM, Krull KR. Longitudinal assessment of patient-reported cumulative symptom burden as an indicator of chronic health conditions in adult survivors of childhood cancer: a joint report of the St. Jude Lifetime Cohort (SJLIFE) and the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2018, poster presentation; International Society for Quality of Life Research Annual Conference, October 2018, oral presentation.

**A1816** Vuotto SC, Krull KR, Li C, Okcu F, Bowers DC, Ullrich NJ, Srivastava D, Howell R, Gibson TM, Leisenring WM, Oeffinger KC, Robison LL, Armstrong GT, Brinkman TM. Neurologic morbidities, emotional distress, and functional independence in adult survivors of childhood cancer treated with CNS-directed therapies: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, June 2018, poster presentation.

**A1817** Karlson CW, Alberts NM, Liu W, Brinkman TM, Annett R, Mulrooney DA, Schulte F, Leisenring W, Gibson TM, Howell RM, Srivastava D, Oeffinger KC, Armstrong GT, Zeltzer LK, Krull KR. Chronic pain and disability in long-term survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2018, poster presentation.

**A1818** Oeffinger KC, Stratton K, Hudson MM, Leisenring WM, Howell WM, Wolden SL, Constine LS, Diller L, Henderson TO, Sklar CA, Nathan PC, Castellino SM, Smith SA, Armstrong GT, Robison LL. Risk-adapted therapy for pediatric Hodgkin lymphoma (HL) results in lower risk of late effects: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2018, oral presentation.

**A1819** Lucas JT, DeSisto J, Donson A, Sanford B, Wu G, Armstrong GT, Arnold M, Bhatia S, Flannery P, Lemma R, Hardie L, Hoffman L, Dorris K, Liu A, Foreman N, Vibhakar R, Jones K, Allen S, Baker SJ, Merchant TE, Green AL, Orr BA. Pediatric treatment-included high-grade gliomas are enriched for a specific methylation subgroup and recurrent genomic abnormalities. American Association of Neuropathologists (AANP) Meeting, June 2018, oral presentation.

**A1820** Cheung YT, Liu W, Brinkman TM, Srivastava D, Leisenring WM, Howell RM, Ullrich NJ, Lommel KM, Brouwers P, Gibson TM, Robison LL, Armstrong GT, Krull KR. Prevalence of prescription psychoactive medication use in adolescent survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). Multinational Association of Supportive Care in Cancer Annual Meeting, June 2018, oral presentation.

**A1821** Daniel L, Wang M, Srivastava D, Schwartz L, Brinkman T, Edelstein K, Mulrooney D, Zhou E, Howell R, Gibson T, Leisenring W, Armstrong GT, Krull K. Sleep behaviors and patterns in adult survivors of childhood cancers: a report from the Childhood Cancer Survivor Study (CCSS). Associated Professional Sleep Societies Annual Meeting, June 2018, oral presentation.

**A1822** Schonfeld SJ, Howell RM, Smith SA, Neglia JP, Turcotte LM, Arnold MA, Inskip PD, Oeffinger KC, Moskowitz CS, Henderson TO, Leisenring WM, Gibson TM, Berrington de González A, Sampson JN, Chanock SJ, Tucker MA, Bhatia S, Robison LL, Armstrong GT, Morton LM. Comparison of radiation dose reconstruction methods to investigate late adverse effects of radiotherapy for childhood cancer: A report from the Childhood Cancer Survivor Study. Conference on Radiation and Health Annual Meeting, September, 2018, poster presentation.

**A1823** Schulte F, Brinkman T, Li C, Fay-McClymont T, Srivastava D, Ness KK, Howell R, Mueller S, Wells E, Strother D, Lafey-Cousin L, Leisenring W, Robison LL, Armstrong GT, Krull KR. Social adjustment in adolescent survivors of pediatric CNS tumors: a report from the Childhood Cancer Survivor Study. International Society of Paediatric Oncology Annual Meeting, November 2018, oral presentation.

**A1824** Lupo PJ, Brown AL, Arroyo VM, Belmont JW, Scheurer ME, Foster KL, Kern KD, Leisenring WM, Okcu MF, Yasui Y, Morton LM, Chanock SJ, Robison LL, Armstrong GT, Bhatia S, Oeffinger KC, Kamdar KY. Genome-wide association study to identify obesity susceptibility loci in survivors of childhood Acute Lymphoblastic Leukemia (ALL): a report from the Childhood Cancer Survivor Study (CCSS). International Society of Paediatric Oncology Annual Meeting, November 2018, oral presentation.

**A1825** Brown AL, Seidel KD, Hayashi S, Lupo PJ, Henderson TO, Howell RM, Krull KR, Robison LL, Leisenring WM, Oeffinger KC, Armstrong GT, Hayashi R. Hearing impairment among long-term survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). International Society of Paediatric Oncology Annual Meeting, November 2018, poster presentation.

**A1826** Esbenschade AJ, Friedman DL, Lu L, Oeffinger KC, Armstrong GT, Krull KR, Neglia JP, Leisenring W, Stovall M, Robison LL, Ness KK. Using the cumulative illness rating scale to characterize the burden of chronic conditions among childhood cancer survivors and to predict mortality. International Society of Paediatric Oncology Annual Meeting, November 2018, poster presentation.

**A1827** Yeh J, Ward ZJ, Liu Q, Yasui Y, Chaudhry A, Leisenring WM, Oeffinger KC, Hudson MM, Krull KR, Gibson TM, Howell R, Armstrong GT, Diller L. Projected improvement in life expectancy across three treatment decades: insights from the Childhood Cancer Survivor Study (CCSS). International Society of Paediatric Oncology Annual Meeting, November 2018, oral presentation.

**A1828** Bhatia S, Chen Y, Wong FL, Neglia JP, Arnold M, Turcotte L, de Blanc P, Armstrong GT, Robison LL, Clapp DW, Shannon K, Nakamura J, Fisher M. Risk of subsequent neoplasms (SNs) after a primary tumor in patients with NF1. Joint Global Neurofibromatosis Annual Conference, November 2018, oral presentation.

**A1829** de Blank P, Li N, Fisher M, Ullrich N, Bhatia S, Yasui Y, Sklar C, Leisenring W, Howell R, Oeffinger K, Hardy K, Okcu MF, Gibson T, Robison LL, Armstrong GT, Krull K. Risk of psychological, cognitive and health impairments in adult survivors of childhood glioma with neurofibromatosis type 1. Joint Global Neurofibromatosis Annual Conference, November 2018, oral presentation.

## 2017

**A1701** Tonorezos ES, Meacham L, Chou J, Moskowitz CS, Leisenring WM, Friedman DN, Sklar CA, Dilley KJ, Hudson M, Mertens A, Armstrong GT, Robison LL, Oeffinger KC. Increased late mortality in underweight survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. ASCO Survivorship Symposium, January 2017, poster presentation.

**A1702** Weil B, Madenci A, Liu Q, Gibson T, Yasui Y, Neglia J, Leisenring W, Howell R, Tonorezos E, Friedman D, Tinkle C, Diller L, Armstrong GT, Oeffinger K, Weldon C. Infection related late mortality in survivors of childhood cancer with asplenia or radiation-induced hyposplenism: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, June 2017, poster presentation; 15th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2017, oral presentation.

**A1703** Madenci AL, Weil BR, Liu Q, Gibson TM, Yasui Y, Leisenring WM, Howell RM, Tinkle C, Nekhlyudov L, Diller L, Armstrong GT, Oeffinger KC, Weldon CB. Long-term incidence of venous thromboembolism (VTE) among survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, June 2017, poster presentation; 15th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2017, poster presentation.

**A1704** Gibson TM, Mostoufi-Moab S, Stratton K, Barnea D, Chow EJ, Donaldson SS, Howell R, Hudson MM, Leisenring WM, Mahajan A, Nathan PC, Ness KK, Sklar CA, Tonorezos ES, Weldon CB, Wells EM, Yasui Y, Armstrong GT, Robison LL, Oeffinger KC. Temporal trends in chronic disease among survivors of childhood cancer diagnosed across three decades: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2017, oral presentation; 15th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2017, oral presentation.

**A1705** Bates JE, Liu Q, Yasui Y, Howell RM, Mulrooney DA, Dhakal S, Leisenring WM, Indelicato DJ, Gibson TM, Armstrong GT, Oeffinger KC, Constine LS. Age-associated vulnerability to treatment-related late cardiotoxicity: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2017, oral presentation.

**A1706** Salloum R, Chen Y, Yasui Y, Packer R, Leisenring W, Wells E, King A, Howell R, Gibson TM, Krull KR, Robison LL, Oeffinger KC, Fouladi M, Armstrong GT. Temporal trends in late-onset morbidity and mortality after medulloblastoma diagnosed across three decades: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, June 2017, oral presentation.

**A1707** Henderson TO, Nathan PC, Whitton J, Leisenring W, Neglia J, Fowler B, Arnold MA, Howell RM, Robison LL, Armstrong GT, Alexander K. Human papillomavirus (HPV)-associated malignancies as subsequent malignant neoplasms (SMN) in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2017, poster presentation; 15th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2017, poster presentation.

- A1708** Brooke RJ, Chemaitilly W, Wilson CL, Krasin MJ, Li Z, Im C, Morton LM, Wu G, Wang Z, Chen W, Howell RM, Armstrong GT, Bhatia S, Chanock SJ, Zhang J, Green DM, Sklar CA, Hudson MM, Robison LL, Yasui Y. A high-risk genetic profile for premature menopause (PM) in childhood cancer survivors (CCS) exposed to gonadotoxic therapy: a report from the St. Jude Lifetime Cohort (SJLIFE) and Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2017, oral presentation; 15th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2017, oral presentation.
- A1709** Dietz AC, Seidel K, Leisenring WM, Mulrooney DA, Tersak JM, Glick RD, Burnweit CA, Green DM, Diller L, Oeffinger KC, Smith SA, Howell RM, Stovall M, Robison LL, Armstrong GT, Termuhlen AM. Solid organ transplant after treatment for childhood cancer: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology, June 2017, poster presentation; 15th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2017, oral presentation.
- A1710** Feijen EA, Leisenring WM, Stratton KL, Ness KK, Van der Pal HJH, van Dalen EC, Armstrong GT, Aune GJ, Green DM, Hudson MM, Loonen J, Oeffinger KC, Robison LL, Yasui Y, Kremer LC, Chow EJ. Equivalence ratios for late cardiomyopathy after doxorubicin and other anthracyclines/anthraquinones. 15th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2017, oral presentation.
- A1711** Huang I, Hyun G, Gibson TM, Yasui Y, Leisenring W, Armstrong GT, Hudson MM, Robison LL, Krull KR. The Impact of administration modes on patient-reported outcome survey: a report from the Childhood Cancer Survivor Study (CCSS). 15th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2017, poster presentation.
- A1712** Lupo PJ, Brown AL, Kamdar KY, Belmont JW, Armstrong GT, Leisenring WM, Oeffinger KC, Okcu F, Robison LL, Scheurer ME, Yasui Y, Bhatia S. DNA methylation and obesity in survivors of pediatric Acute Lymphoblastic Leukemia (ALL): a report from the Childhood Cancer Survivor Study (CCSS). 15th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2017, poster presentation.
- A1713** Moskowitz CS, Chou JF, Sklar CA, Barnea D, Ronckers CM, Friedman DN, Neglia JP, Turcotte L, Howell RM, Henderson TO, Armstrong GT, Leisenring WM, Robison LL, van Leeuwen FE, Pike MC, Oeffinger KC. Radiation-associated breast cancer and hormone exposure: a report from the Childhood Cancer Survivor Study (CCSS). 15th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2017, oral presentation.
- A1714** Zheng DJ, Krull KR, Chen Y, Diller L, Yasui Y, Brouwers P, Howell R, Lai JS, Balsamo L, Oeffinger KC, Robison LL, Armstrong GT, Kadan-Lottick NS. Long-term psychological outcomes in survivors of neuroblastoma: a report from the Childhood Cancer Survivor Study. 15th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2017, oral presentation.
- A1715** Morton LM, Veiga L, Curtis RE, Withrow D, Inskip PD, Oeffinger KC, Moskowitz CS, Neglia JP, Turcotte LM, Howell R, Weathers RE, Smith SA, Henderson TO, Leisenring WM, Whitton JA, Gibson TM, Robison LL, Armstrong GT, Berrington A. Risk of subsequent breast cancer after radiotherapy according to hormone-receptor status: a nested case-control study in Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2017, poster presentation.
- A1716** Foster RH, Hayashi R, Liu W, Mohrmann C, Howell RM, Smith SA, Gibson TM, Srivastava DK, Green DM, Oeffinger KC, Leisenring WM, Robison LL, Armstrong GT, Krull KR, Hardy KK. Social outcomes among adolescent long-term survivors of Wilms tumor: a report from the Childhood Cancer Survivor Study. International Society of Paediatric Oncology Annual Meeting, October 2017, oral presentation.
- A1717** Foster RH, Hayashi R, Wang M, Liu W, Mohrmann C, Howell RM, Smith S, Gibson TM, Srivastava K, Green DM, Oeffinger K, Leisenring W, Robison LL, Armstrong GT, Krull K Hardy KK. Psychological and educational outcomes among adolescent survivors of Wilms tumor: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology, June 2017, poster presentation; 15th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2017, poster presentation.
- A1718** Tonorezos ES, Meacham L, Chou JF, Moskowitz CS, Leisenring WM, Freidman D, Sklar CA, Dilley KJ, Hudson M, Mertens A, Armstrong GT, Robison LL, Oeffinger KC. Risk of increased mortality in underweight survivors: a report from the Childhood Cancer Survivor Study. 15th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2017, oral presentation.
- A1719** Bates JE, Howell RM, Liu Q, Yasui Y, Mulrooney DA, Dhakal S, Leisenring WM, Indelicato DJ, Gibson TM, Armstrong GT, Oeffinger KC, Constine LS. Volumetric dose-effect analysis of late cardiotoxicity: a report from the Childhood Cancer Survivor Study (CCSS). American Society for Radiation Oncology Annual Meeting, oral presentation, September 2017.

**A1720** Mueller S, Chen Y, Yasui Y, Fullerton HJ, Howell R, Oeffinger K, Robison LL, Armstrong GT, Krull KR. Impact of stroke and stroke recurrence on late mortality as well as psychological and socioeconomic outcomes in childhood cancer survivors. Pediatric Neuro-Oncology Basic and Translational Research Conference, June 2017, poster presentation.

## 2016

**A1601** Vuotto SC, Brinkman TM, Li C, Lown A, Marchak JG, Srivastava D, Nathan PC, Robison LL, Armstrong GT, Krull KR. The impact of alcohol consumption on neurocognitive dysfunction in adult survivors of childhood cancer. 44<sup>th</sup> International Neuropsychological Society Annual Meeting, February 2016, oral presentation.

**A1602** Fair D, Kirchhoff AC, Nipp P, Leisenring W, Oeffinger K, Armstrong GT, Robison LL, Park E. How costs of healthcare affect utilization in the Childhood Cancer Survivor Study. ASCO Cancer Survivorship Symposium, January 2016, poster presentation.

**A1603** Keske R, Armstrong GT, Davine J, McDonald A, Gibson T, Daniel C, Mertens A, Marghoob A, Geller A. Advancing Survivors' Knowledge (ASK) About Skin Cancer Study: a randomized intervention within the Childhood Cancer Survivor Study (CCSS). ASCO Cancer Survivorship Symposium, January 2016, poster presentation.

**A1604** D'Agostino N, Edelstein K, Zhang N, Recklitis C, Srivastava K, Leisenring W, Robison LL, Armstrong GT, Krull KR. Predicting patterns of distress in adult survivors of childhood cancer: a latent profile analysis from the Childhood Cancer Survivor Study. ASCO Cancer Survivorship Symposium, January 2016, poster presentation.

**A1605** Morton LM, Sampson JN, Armstrong GT, Chen T, Hudson MM, Karlins E, Dagnall CL, Li S, Wilson CL, Srivastava K, Liu W, Kang G, Oeffinger KC, Henderson TO, Moskowitz CS, Gibson TM, Merino DM, Wong JR, Hammond S, Neglia JP, Turcotte LM, Miller J, Bowen L, Wheeler WA, Leisenring WM, Whitton JA, Burdette L, Chung C, Hicks BD, Jones K, Machiela MJ, Vogt A, Wang Z, Yeager M, Neale G, Lear M, Strong LC, Yasui Y, Stovall M, Weathers RE, Smith SA, Howell R, Davies SM, Radloff GA, Berrington de González A, Inskip PD, Rajaraman P, Fraumeni JF Jr., Bhatia S, Chanock SJ, Tucker MA, Robison LL. Genome-wide association study identifies two susceptibility loci that modify radiation-related risk for breast cancer after childhood cancer: a report from the Childhood Cancer Survivor Study and St. Jude Lifetime cohort. American Association of Cancer Research Annual Meeting, April 2016, oral presentation.

**A1606** Morton LM, Sampson JN, Bhatia S, Hudson MM, Chen TH, Neglia JP, Yasui Y, Karlins E, Dagnall CL, Gibson TM, Wilson CL, Srivastava DK, Liu W, Kang G, Weathers RE, Smith SA, Tucker MA, Robison LL, Chanock SJ, Armstrong GT. Genome-wide association study of meningioma as a subsequent neoplasm: a report from the Childhood Cancer Survivor Study (CCSS) and St. Jude Lifetime cohort (SJLIFE). American Society of Clinical Oncology Annual Meeting, June 2016, oral presentation.

**A1607** Turcotte LM, Yasui Y, Liu Q, Hammond S, Arnold MA, Howell RM, Gibson TM, Leisenring WM, Armstrong GT, Robison LL, Neglia JP. Changing patterns of subsequent malignancies in the Childhood Cancer Survivor Study cohort. American Society of Clinical Oncology Annual Meeting, June 2016, oral presentation.

**A1608** Oeffinger KC, Ford J, Moskowitz CS, Chou JF, Henderson TO, Hudson MM, Diller L, McDonald A, Ford J, Mubdi NZ, Rinehart D, Vukadinovich C, Gibson TM, Anderson N, Elkin EB, Garret K, Rebull M, Armstrong GT. The EMPOWER Study: promoting breast cancer screening: a randomized controlled trial (RCT) in the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2016, oral presentation.

**A1609** Gibson TM, Li C, Armstrong GT, Srivastava DK, Leisenring WM, Mertens A, Brinkman TM, Diller L, Nathan PC, Hudson MM, Robison LL. Patient-reported levels of concern in the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2016, poster presentation.

**A1610** Levine JM, Armstrong GT, Ginsberg J, Green DM, Leisenring WM, Robison LL, Stovall M, Whitton J, Sklar CA. Non-surgical premature menopause (NSPM) in the Childhood Cancer Survivor Study (CCSS): prevalence, risk factors, and reproductive outcomes. American Society of Clinical Oncology Annual Meeting, June 2016, oral presentation.

**A1611** Machiela MJ, Karlins E, Zhou W, Khan J, Ballet S, Lapouble E, Laurence V, Michon J, Pierron G, Mirabello L, Morton L, Armstrong GT, Robison LL, Bhatia S, Hoover R, Tucker MA, Tirode F, Delattre O, Chanock SJ. Genome-wide association study identifies new susceptibility regions associated with Ewing sarcoma risk. The American Society of Human Genetics Annual Meeting, October 2016, poster presentation.

**A1612** Moskowitz CS, Chou JF, Barnea D, Sklar CA, Leisenring WM, Neglia JP, Turcott L, Howell RM, Freidman DN, Henderson TO, Ronckers CM, van Leeuwen F, Pike MC, Armstrong GT, Oeffinger KC. Gonadal hormone exposure and radiation-associated breast cancer risk: a report from the Childhood Cancer Survivor Study. European Symposium on Late Complications after Childhood Cancer, September 2016, poster presentation.

**A1613** Turcotte L, Liu Q, Yasui Y, Hammond S, Howell R, Gibson TM, Leisenring WM, Armstrong GT, Robison LL, Neglia J. Therapeutic modifications and changing patterns of subsequent neoplasms in the Childhood Cancer Survivor Study. European Symposium on Late Complications after Childhood Cancer, September 2016, oral presentation.

**A1614** Ehrhardt MJ, Chen Y, Sandlund JT, Bluhm EC, Hayashi R, Leisenring WM, Metzger M, Ness KK, Krull KR, Oeffinger KC, Robison LL, Yasui Y, Armstrong GT, Hudson MM, Mulrooney DA. Estimated late health outcomes in children diagnosed with B-cell non-Hodgkin lymphoma treated with contemporary LMB chemotherapy: a report from the Childhood Cancer Survivor Study (CCSS). Annual American Society of Hematology, December 2016, poster presentation.

## 2015

**A1501** Park ER, Kirchhoff AC, Perez GK, Leisenring W, Weissman JS, Donelan K, Hyland K, Armstrong GT, Robison LL, Kuhlthau KA. Childhood Cancer Survivor Study participants' health insurance coverage experiences. 36th Annual Meeting & Scientific Sessions of the Society of Behavioral Medicine, April 2015, poster presentation.

**A1502** Buchbinder D, Oeffinger KC, Franco-Villalobos C, Yasui Y, Alderfer MA, Armstrong GT, Casillas J, Ford J, Krull KR, Leisenring W, Recklitis C, Robison LL, Zeltzer LK, Lown EA. Tobacco use behaviors of siblings of childhood cancer survivors: a report from the Childhood Cancer Survivor Study. 28th Annual Meeting of American Society of Pediatric Hematology/Oncology, May 2015, poster presentation.

**A1503** Gibson TM, Liu W, Armstrong GT, Srivastava K, Hudson MM, Leisenring WM, Mertens AC, Klesges RC, Oeffinger KC, Nathan PC, Robison LL. Longitudinal smoking patterns in survivors of childhood cancer: a Childhood Cancer Survivor Study (CCSS) update. American Society of Clinical Oncology Annual Meeting, June 2015, poster presentation, 14th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2015, poster presentation.

**A1504** Ness KK, Hudson MM, Jones KE, Leisenring WM, Stovall M, Green DM, Neglia JP, Henderson TO, Casillas J, Ford JS, Effinger KE, Oeffinger KC, Armstrong GT, Robison LL, Nathan PC. Temporal trends in health status among adults in the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2015, poster presentation, 14th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2015, poster discussion session.

**A1505** Bowers DC, Moskowitz CS, Chou JF, Mazewski CM, Neglia J, Armstrong GT, Leisenring WM, Robison LL, Oeffinger KC. Morbidity and Mortality associated with subsequent meningioma among Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2015, oral presentation; 14th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2015, oral presentation.

**A1506** D'Agostino NM, Edelstein K, Zhang N, Recklitis CJ, Brinkman TM, Srivastava DK, Leisenring WM, Robison LL, Armstrong GT, Krull KR. Patterns and predictors of psychological distress in adult survivors of childhood cancer: a Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2015, poster presentation; 14th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2015, poster presentation.

**A1507** Perez G, Kirchhoff A, Krull K, Leisenring W, Recklitis C, Armstrong GT, Nathan P, Robison LL, Kuhlthau K, Park E. Mental health care insurance coverage, utilization and perceived value among childhood cancer survivors: a report from the Childhood Cancer Survivor Study (CCSS). 2015 World Congress of Psycho-Oncology, July 2015, poster presentation.

**A1508** Bhatia S, Liu Q, Leisenring WM, Ness KK, Gibson TM, Robison LL, Armstrong GT, Yasui Y. Long-term outcomes by race/ethnicity in the Childhood Cancer Survivor Study (CCSS) Cohort. American Society of Clinical Oncology Annual Meeting, June 2015, poster presentation.

**A1509** Mostoufi-Moab S, Seidel K, Leisenring WM, Armstrong GT, Oeffinger KC, Green DM, Stovall M, Meacham LR, Ginsberg J, Robison LL, Sklar CA. Endocrine disorders in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). 14th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2015, oral presentation.

**A1510** Mueller EL, Hutchinson R, Goodman P, Leisenring WM, Sklar CA, Hudson MM, Ness KK, Armstrong GT, Robison LL, Stovall M, Oeffinger KC, Nathan PC. Long-term risks for chronic medical conditions and premature mortality in survivors of pediatric soft tissue sarcoma: a Report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2015, oral presentation; 14th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2015, poster presentation.

**A1511** Brinkman TM, Vuotto SC, Li C, Oeffinger KC, Green DM, Patel S, Srivastava DK, Stovall M, Ness KK, Armstrong GT, Robison LL, Krull KR. Impact of chronic disease on psychological distress in adult survivors in the Childhood Cancer Survivor Study (CCSS). 14th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2015, oral presentation.

**A1512** Brinkman TM, Li C, Vannatta KA, Marchak JG, Lai J, Kimberg C, Prasad PK, Di C, Srivastava DK, Robison LL, Armstrong GT, Krull KR. Emotional and behavioral phenotypes of adolescent survivors in the Childhood Cancer Survivor Study (CCSS). 14th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2015, poster presentation.

**A1513** Leisenring WM, Whitton J, Neglia JP, Green DM, Gibson T, Stovall M, Hudson MM, Robison LL, Armstrong GT, Yasui Y, Mertens AC. Temporal changes in treatment exposures in the Childhood Cancer Survivor Study (CCSS). 14th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2015, oral presentation.

**A1514** Effinger KE, Fisher PG, Ness KK, Krull K, Marina N, Stovall M, Oeffinger KC, Armstrong GT, Robison LL, Nathan PC, Leisenring WM, Hudson MM. Longitudinal Evaluation of Health Status and Chronic Conditions in Aging Pediatric Astrocytoma Survivors: A Childhood Cancer Survivor Study (CCSS) Report. American Society of Clinical Oncology Annual Meeting, June 2015, poster presentation; 14th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2015, oral presentation.

**A1515** Schapiro M, Hayashi R, Liu W, Srivastava DK, Jeffe D, Perkins S, Armstrong GT, Robison LL, Stovall M, Leisenring W, Krull K. Neurocognitive, emotional, and quality of life outcomes in long-term survivors of rhabdomyosarcoma: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2015, poster presentation; 14th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2015, poster presentation.

**A1516** Madenci AL, Fisher S, Diller L, Goldsby R, Leisenring W, Oeffinger KC, Robison LL, Sklar C, Stovall M, Weathers RE, Armstrong GT, Yasui Y, Weldon CB. Intestinal obstruction in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2015, poster presentation; 14th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2015, poster presentation.

**A1517** Armstrong GT, Yasui Y, Chen Y, Leisenring W, Gibson TM, Mertens A, Stovall M, Hudson MM, Oeffinger KC, Bhatia S, Krull K, Nathan PC, Neglia J, Green D, Robison LL. Reduction in late mortality among five-year survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2015, plenary session presentation; 14th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2015, oral presentation.

**A1518** Gilleland-Marchak J, Seidel KD, Mertens AC, Ritenour CWM, Wasilewski-Masker K, Leisenring W, Sklar CA, Ford J, Krull KR, Stovall M, Robison LL, Armstrong GT, Meacham LR. Perceptions of risk for infertility among male survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). 14th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2015, oral presentation.

**A1519** Daniel C, Armstrong GT, Keske R, Davine J, McDonald A, Sprunck-Harrild K, Coleman C, Haneuse S, Mertens A, Emmons K, Marghoob A, Elkin E, Dusza S, Robison LL, Gibson T, Geller A. Advancing Survivors' Knowledge (ASK) About Skin Cancer Study: a randomized intervention within the Childhood Cancer Survivor Study (CCSS). New England Cancer Survivorship Research Conference: Focus on Intervention, April 2015, poster presentation.

**A1520** de Blank P, Fisher MJ, Lu L, Leisenring WM, Ness KK, Sklar CA, Stovall M, Vukadinovich CM, Robison LL, Armstrong GT, Krull KR. The Impact of vision loss among survivors of childhood central nervous system astroglial tumors. Children's Tumor Foundation NF Conference, June 2015, oral presentation.

**A1521** Mertens A, Whitton J, Gibson TM, Stovall M, Hudson MM, Robison LL, Armstrong GT, Yasui Y, Leisenring WM, Green D. Temporal changes in treatment exposures in the Childhood Cancer Survivor Study (CCSS). Children's American Society of Clinical Oncology Annual Meeting, June 2015, poster presentation.

**A1522** Feijen EAM, Stratton KL, Ness KK, Van der Pal HJH, Caron HN, Armstrong GT, Green D, Hudson MM, Leisenring W, Oeffinger KC, Robison LL, Stovall M, Kremer LCM, Chow EJ. Equivalence ratio for daunorubicin to doxorubicin in relation to late heart failure. 14th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2015, oral presentation.

**A1523** Yeh JM, Hanmer J, Ward Z, Leisenring W, Armstrong GT, Hudson M, Stovall M, Robison LL, Oeffinger K, Diller L. Health utility scores in childhood cancer survivors: insights from the Childhood Cancer Survivor Study. 37th Annual Meeting of the Society of Medical Decision Making, October 2015, oral presentation.

**A1524** Nipp RD, Kirchhoff AC, Fair DB, Kuhlthau K, Hyland K, Perez GK, Armstrong GT, Nathan PC, Oeffinger KC, Leisenring WM, Park ER. Financial burden among survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. ASCO Palliative Care in Oncology Symposium, October 2015, poster presentation.

**A1525** Jacola LM, Edelstein K, Lui W, Pui CH, Hayashi R, Kadan-Lottick N, Srivastava D, Henderson T, Robison LL, Armstrong GT, Krull KR. Cognitive, behavior and academic problems in adolescent survivors of childhood acute lymphoblastic leukemia (ALL): a report from the Childhood Cancer Survivor Study. 57th American Society of Hematology Annual Meeting and Exposition, December 2015, oral presentation.

**A1401** Effinger KE, Leisenring W, Oeffinger KC, Hudson MM, Ness KK, Marina N, Castellino SM, Stovall M, Armstrong GT, Robison LL, Sainani K, Whittemore AS. Longitudinal Evaluation of health status in aging pediatric Hodgkin lymphoma survivors: report from the Childhood Cancer Survivor Study. 2nd International Symposium on Childhood, Adolescent and Young Adult Hodgkin Lymphoma, May 2014, oral presentation.

**A1402** Zhou R, Ng A, Withers R, McDonald A, Leisenring W, Goodman P, Stovall M, Armstrong GT, Robison LL, Hodgson D. The evolution of pediatric Hodgkin lymphoma therapy: contemporary protocols significantly reduce radiation exposure of normal tissues. 2nd International Symposium on Childhood, Adolescent and Young Adult Hodgkin Lymphoma, May 2014, oral presentation.

**A1403** Suh E, Stratton KL, Ford JS, Nathan PC, Freyer DR, McNeer J, Stock W, Leisenring W, Stovall M, Krull KR, Sklar CA, Armstrong GT, Oeffinger KC, Robison LL, Henderson TO. Chronic health conditions and premature mortality in long-term survivors of cancer diagnosed between the ages of 15 and 20 years: a report from the Childhood Cancer Survivor Study. 7<sup>th</sup> Biennial Cancer Survivorship Research Conference, June 2014, poster presentation.

**A1404** Chow EJ, Chen Y, Armstrong GT, Border WL, Meacham LR, Mulrooney DA, Oeffinger KC, Sklar CA, Stovall M, Robison LL, Yasui Y. Individual risk prediction of major cardiovascular events after cancer: a Childhood Cancer Survivor Study report. American Society of Clinical Oncology Annual Meeting, May 2014, poster presentation.

**A1405** Jones LW, Liu Q, Armstrong GT, Ness KK, Yasui Y, Devine K, Tonorezos E, Soares-Miranda L, Sklar CA, Douglas PS, Robison LL, Oeffinger KC. Exercise and risk of major cardiovascular events in adult survivors of childhood Hodgkin lymphoma: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, May 2014, poster presentation, European Symposium on Late Complications after Childhood Cancer (ESLCCC), September 2014, poster presentation.

**A1406** King AA, Perkins SM, Seidel K, Di C, Leisenring WM, Krull KR, Green DM, Armstrong GT, Zelter LK, Wells E, Stovall M, Ullrich N, Oeffinger KC, Robison LL, Packer R. Health and functional status of long term adult medulloblastoma/PNET survivors: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, May 2014, poster presentation.

**A1407** Henderson TO, Moskowitz CS, Onel K, Bradbury AR, Friedman DN, Chou JF, Bhatia S, Strong LC, Neglia JP, Stovall M, Leisenring WM, Robison LL, Armstrong GT, Diller L, Oeffinger KC. Breast cancer in childhood cancer survivors not treated with chest-directed radiation in the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, May 2014, oral presentation.

**A1408** Moskowitz CS, Malhotra J, Chou JF, Wolden SL, Stovall M, Armstrong GT, Leisenring WM, Neglia JP, Robison LL, Oeffinger KC. Breast cancer following spinal radiotherapy for a childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, May 2014, poster presentation.

**A1409** Huang IC, Brinkman TM, Armstrong GT, Robison LL, Krull KR. Mediating role of emotional symptoms on assessment of health-related quality of life of adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, May 2014, poster presentation.

**A1410** Dietz AC, Chen Y, Ness KK, Hagood JS, Chow EJ, Yasui Y, Stovall M, Neglia JP, Oeffinger KC, Mertens AC, Robison LL, Armstrong GT, Mulrooney DA. Risk and Impact of pulmonary complications in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, May 2014, poster presentation, 14th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2015, oral presentation.

**A1411** Turcotte LM, Whitton J, Friedman DL, Hammond S, Armstrong GT, Leisenring WM, Robison LL, Neglia JP. Subsequent neoplasms in the 5th and 6th decades of life in the Childhood Cancer Survivor Study cohort. American Society of Clinical Oncology Annual Meeting, May 2014, poster presentation.

**A1412** Cox CL, Leisenring WM, Stratton KL, Steen BD, Ogg SW, Robison LL, Hudson MM. Combining eHealth and mHealth strategies to promote risk-based cardiovascular screening in adult survivors of childhood cancer. 7th Biennial Cancer Survivorship Research Conference, June 2014, oral presentation.

**A1413** Wells EM, Ullrich NJ, Seidel K, Leisenring W, Sklar C, Armstrong GT, Diller L, King A, Krull K, Neglia JP, Stovall M, Whelan K, Robison LL, Packer RJ. Neurologic sequelae in brain tumor survivors in the Childhood Cancer Survivor Study (CCSS). 16<sup>th</sup> International Symposium on Pediatric Neuro-Oncology (ISPNO), June 2014, oral presentation.

**A1414** Hudson MM, Leisenring WM, Stratton K, Tinner N, Steen B, Ogg S, Barnes L, Robison LL, Cox CL. Increasing cardiovascular screening in at-risk adult survivors of pediatric malignancies: a randomized controlled trial. American Society of Clinical Oncology Annual Meeting, May 2014, oral presentation.

**A1415** Cox C, Leisenring W, Stratton K, Steen B, Ogg S, Tinner N, Robison LL, Hudson MM. Motivating behavior change in adult survivors of childhood cancer: a randomized controlled trial (RCT) from the Childhood Cancer Survivor Study (CCSS). 142<sup>nd</sup> American Public Health Association Annual Meeting and Exposition, November 2014, oral presentation.

**A1416** Tsui K, Gajjar A, Li C, Srivastava D, Broniscer A, Wetmore C, Kun LE, Merchant TE, Ellison DW, Orr B, Boop FA, Klimo Jr P, Ross JD, Robison LL, Armstrong GT. Subsequent neoplasms in survivors of central nervous system tumors: risk after modern multimodal therapy. 16<sup>th</sup> International Symposium on Pediatric Neuro-Oncology (ISPNO), June 2014, poster presentation.

**A1417** Feijen EAM, Stratton KL, Ness KK, Van der Pal HJH, Caron HN, Armstrong GT, Green D, Hudson MM, Leisenring W, Oeffinger KC, Robison LL, Stovall M, Kremer LCM, Chow EJ. Equivalence ratio for daunorubicin to doxorubicin in relation to late heart failure. European Symposium on Late Complications after Childhood Cancer (ESLCCC), September 2014, poster presentation.

**A1418** Ford JS, Chou JF, Moskowitz C, Candela J, Henderson TO, Nathan P, Hudson MM, Leisenring W, Robison LL, Armstrong GT, Oeffinger KC. Cancer treatment summaries and long-term childhood cancer survivors: a report from the Childhood Cancer Survivor Study. European Symposium on Late Complications after Childhood Cancer (ESLCCC), September 2014, poster presentation.

## 2013

**A1301** Kirchhoff AC, Leisenring W, Oeffinger K, Armstrong GT, Robison LL. Labor force transitions in the Childhood Cancer Survivor Study. 34<sup>th</sup> Annual Meeting & Scientific Sessions of the Society of Behavior Medicine, March 2013, poster presentation.

**A1302** Kirchhoff AC, Kuhlthau K, Leisenring W, Warner EL, Armstrong GT, Oeffinger K, Robison LL, Park ER. Childhood cancer survivors and social security benefit coverage: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Preventive Oncology, March 2013, poster presentation.

**A1303** Daniel CL, Kohler C, Nathan P, Oeffinger K, Stratton K, Leisenring W, Whelan K, Waterbor J, Henderson T, Armstrong GT, Krull K, Robison LL. Predictors of colorectal cancer screening among high-risk survivors of childhood cancer. American Society of Preventive Oncology, March 2013, oral presentation.

**A1304** Prasad PK, Hardy KK, Zhang N, Srivastava DK, Edelstein K, Zeltzer L, Stovall M, Leisenring W, Seibel NL, Armstrong GT, Robison LL, Krull KK. Psychological and Neurocognitive outcomes in survivors diagnosed with cancer as adolescents and young adults: a Report from the Childhood Cancer Survivor Study. American Society of Pediatric Hematology-Oncology, April 2013, poster presentation.

**A1305** Park ER, Kirchhoff AC, Perez-Lougee G, Leisenring W, Weissman JS, Donelan K, Mertens AC, Reschovsky J, Armstrong GT, Robison LL, Diller LR, Recklitis CJ, Kuhlthau KA. Childhood cancer survivor familiarity with the Affordable Care Act. New England Cancer Survivorship Research Conference, May 2013, poster presentation.

**A1306** Wilson CL, Leisenring WL, Oeffinger K, Nathan PC, Wasilewski-Masker K, Hudson MM, Castellino S, Stovall M, Armstrong GT, Brinkman TM, Robison LL, Ness KK. Predictors of declining levels of physical activity among adult survivors of childhood cancer. American Society of Clinical Oncology Annual Meeting, June 2013, poster presentation; 13<sup>th</sup> International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2013, poster presentation.

**A1307** Essig S, Qiaozi L, Chen Y, Hitzler J, Leisenring W, Greenberg M, Sklar C, Hudson MM, Armstrong GT, Krull K, Neglia JP, Oeffinger KC, Robison LL, Yasui Y, Nathan PC. Estimated long-term outcomes in children newly diagnosed with standard risk acute lymphoblastic leukemia (ALL) based on similarly treated members of the Childhood Cancer Survivor Study (CCSS) cohort. American Society of Clinical Oncology Annual Meeting, June 2013, poster presentation.

**A1308** Soriano S, Bashore L, Ross G, Proffitt-Leyva R, Armstrong GT, Robison LL, Bowman WP. Recruitment of an ethnically diverse population of childhood cancer survivors: a single institution experience. 13<sup>th</sup> International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2013, poster presentation.

**A1309** Gawade PL, Oeffinger KC, Sklar CA, Green DM, Krull KK, Chemaitilly W, Stovall M, Leisenring WM, Robison LL, Ness KK. Pre-pregnancy lifestyle factors, psychological distress and adverse pregnancy outcomes among female survivors in the Childhood Cancer Survivor Study (CCSS) cohort. 13<sup>th</sup> International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2013, oral presentation.

**A1310** Gramatges MM, Liu Q, Yasui Y, Okcu F, Neglia JP, Strong LC, Armstrong GT, Robison LL, Bhatia S. Telomere length and risk of second malignant neoplasms (SMNs) in survivors of childhood cancer: a Childhood Cancer Survivor Study (CCSS). 13<sup>th</sup> International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2013, oral presentation.

**A1311** Goldsby R, Raber S, Stratton K, Ablin A, Li L, Strong L, Leisenring W, Oeffinger K, Sklar C, Armstrong GT, Robison LL, Bhatia S. Long-term sequelae in survivors of childhood leukemia with Down syndrome: a matched cohort study from the Childhood Cancer Survivor Study. Congress of the International Society for Pediatric Oncology (SIOP), September 2013, poster presentation.

**A1313** Mueller S, Fullerton HJ, Stratton K, Leisenring W, Armstrong GT, Weathers RE, Stovall M, Goldsby RE, Sklar CA, Robison LL, Krull KR. Recurrent stroke risk in childhood cancer survivors. Society for Neuro-Oncology, November 2013, oral presentation.

**A1314** Van den Berg A, Cozen W, Li D, Timofeeva M, Diepstra A, Hazelet D, Delahaye-Sourdeix M, Edlund CK, Rostgaard K, Van Den Berg DJ, Glaser SL, Robison LL, Mack TM, Ghesquieres H, Salle G, Bhatia S, Strong LC, Hwang AE, Nieters A, Smedby K, de Sanjose S, Cortessis VK, Lightfoot T, Roman E, Becker N, Foretova L, Benavente Y, Maynadie M, Visser L, Veenstra RN, Staines A, Cocco PL, Boffetta P, Kiemeny L, Lake A, Montgomery D, Slager SL, Cerhan JR, Gallagher A, Taylor GM, Brennan P, Conti DV, Coetzee GA, Onel K, Jarrett RF, Hjalgrim H, McKay JD. TCF3/E2A (19p13.3) is a novel Hodgkin lymphoma susceptibility locus: a meta-GWAS study from the Interlymph Hodgkin lymphoma consortium. 9<sup>th</sup> International Symposium on Hodgkin Lymphoma, October 2013, oral presentation.

**A1315** Cox CL, Nolan V, Leisenring W, Yasui Y, Ogg S, Neglia J, Ness K, Robison LL. Health perceptions, behavior, and medical care utilization: Links to mortality in adult survivors of childhood cancer. American Public Health Association, November 2013, oral presentation.

**A1316** Ritenour CWM, Seidel KD, Leisenring W, Mertens A, Wasilewski-Masker K, Shnorhavorian M, Sklar CA, Whitton JA, Stovall M, Constine LS, Armstrong GT, Robison LL, Meacham L. Sexual health in male childhood cancer survivors: a Report from the Childhood Cancer Survivor Study (CCSS). 13<sup>th</sup> International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2013, poster presentation; Sexual Medicine Society of North America, November 2013, poster presentation.

**A1317** Effinger KE, Leisenring W, Oeffinger KC, Hudson MM, Ness KK, Marina N, Stovall M, Armstrong GT, Robison LL, Sainani K, Whittemore AS. Longitudinal evaluation of health status in aging pediatric Hodgkin lymphoma survivors: report from the Childhood Cancer Survivor Study. American Society of Hematology-Oncology, December 2013, oral presentation.

## 2012

**A1201** Mueller S, Fullerton HJ, Stratton K, Leisenring W, Weathers R, Stovall M, Armstrong GT, Goldsby RE, Packer RJ, Robison LL, Krull KR. Radiation and modifiable stroke risk factors in adult survivors of pediatric cancer: results from the Childhood Cancer Survivor Study. 2012 International Stroke Conference, February 2012, oral presentation, 12<sup>th</sup> International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2012, oral presentation.

**A1202** Wasilewski-Masker K, Seidel KD, Leisenring W, Mertens A, Shnorhavorian M, Ritenour MD, Stovall M, Green DM, Sklar CA, Armstrong GT, Robison LL, Meacham LR. Male Infertility in childhood and adolescent cancer survivors diagnosed from 1970-1986: a report from the Childhood Cancer Survivor Study. 12<sup>th</sup> International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2012, oral presentation.

**A1203** Wilson CL, Ness KK, Neglia JP, Hammond S, Leisenring W, Srivastava DK, Stovall M, Robison LL, Armstrong GT. Renal carcinoma following therapy for cancer in childhood: a report from the Childhood Cancer Survivor Study. 12<sup>th</sup> International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2012, oral presentation; American Society of Clinical Oncology Annual Meeting, June 2012.

**A1204** Chow EJ, Chen Y, Armstrong GT, Border W, Meacham L, Meeske KA, Mulrooney D, Oeffinger KC, Sklar CA, Stovall M, Robison LL, Yasui Y. Predicting future cardiovascular disease after cancer: a Childhood Cancer Survivor Study report. 12<sup>th</sup> International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2012.

**A1205** Shnorhavorian M, Leisenring W, Goodman P, Friedman D, Stovall M, Meacham LR, Chow E, Sklar CA, Diller L, Ferrer F, Armstrong GT, Robison LL. Genito-urinary second malignant neoplasms in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). 12<sup>th</sup> International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2012, oral presentation; American Academy of Pediatrics National Conference and Exhibition, 2012.

**A1206** Wong FL, Bhatia S, Kurian Seira, Landier W, Francisco L, Leisenring W, Hudson, MM, Armstrong GT, Mertens A, Stovall M, Robison LL, Lipshultz ST, Armenian S. Cost-effectiveness of the Children's Oncology Group (COG) Long-Term Follow-Up (LTFU) guidelines in reducing the risk of congestive heart failure (CHF) in long-term childhood cancer survivors (CCS). 12<sup>th</sup> International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2012, oral presentation.

**A1207** Wong FL, Bhatia S, Kurian Seira, Landier W, Francisco L, Leisenring W, Hudson, MM, Armstrong GT, Mertens A, Stovall M, Robison LL, Lipshultz ST, Armenian S. Efficacy of the Children's Oncology Group (COG) Long-Term Follow-Up (LTFU) guidelines in reducing the risk of congestive heart failure (CHF) in long-term childhood cancer survivors (CCS). American Society of Clinical Oncology Annual Meeting, June 2012, oral presentation.

**A1208** Perkins JL, Chen Y, Harris A, Sklar C, Diller L, Stovall M, Armstrong GT, Yasui Y, Robison LL. Infectious complications in survivors of childhood and adolescent cancer: a report from the Childhood Cancer Survivors Study (CCSS). 12<sup>th</sup> International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2012.

**A1209** Casillas J, Liu Q, Hudson MM, Greenberg ML, Yeazel MW, Ness K, Robison LL, Armstrong GT, Leisenring W, Yasui Y, Oeffinger KC, Nathan PC. Longitudinal changes in health care utilization by adult survivors of childhood cancer in the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2012; 12th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2012, oral presentation.

**A1210** Buchbinder D, Mertens AC, Zeltzer LK, Leisenring W, Goodman P, Lown EA, Alderfer MA, Recklitis C, Oeffinger K, Armstrong GT, Hudson MM, Robison L, Casillas J. Cancer prevention and screening practices of siblings of childhood cancer survivors: a report from the Childhood Cancer Survivor Study. 12th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2012.

**A1211** Moskowitz CS, Chou JF, Wolden SL, Bernstein JL, Malhotra J, Friedman DN, Mubdi NZ, Henderson TO, Leisenring WM, Stovall M, Hammond S, Boice JD, Hudson MM, Diller LR, Bhatia S, Neglia JP, The WECARE Study Collaborative Group, Begg CB, Robison LL, Oeffinger KC. New insights into the risk of breast cancer in childhood cancer survivors treated with chest radiation: a report from the Childhood Cancer Survivor Study (CCSS) and the Women's Environmental Cancer and Radiation Epidemiology (WECARE) Study. ASCO Annual Meeting, June 2012, oral presentation; 12<sup>th</sup> International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2012, oral presentation.

**A1212** Armstrong GT, Kawashima T, Leisenring W, Stovall M, Sklar CA, Robison LL, Oeffinger KC. Increasing risk of severe, life-threatening and fatal chronic health conditions in aging survivors of childhood CNS tumors: A Report from the Childhood Cancer Survivor Study. International Symposium on Pediatric Neuro-Oncology, June 2012, oral presentation.

**A1213** Wells EM, Seidel K, Ullrich NJ, Leisenring WM, Armstrong GT, Diller LR, King AA, Krull KR, Neglia JP, Stovall M, Whelan K, Sklar C, Packer RJ. Neurologic sequelae in long-term survivors of childhood brain tumors: a Childhood Cancer Survivor Study (CCSS) Update and Expanded Risk Factor Analysis. International Symposium on Pediatric Neuro-Oncology, June 2012, oral presentation.

**A1214** Armstrong GT, Kawashima T, Leisenring W, Stovall M, Sklar CA, Robison LL, Oeffinger KC. Increasing risk of chronic health conditions in aging survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. ASCO Annual Meeting, June 2012, oral presentation; 12th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2012, oral presentation.

## 2011

**A1101** Park ER, Kirchoff AC, Pandiscio BA, Armstrong GT, Robison LL, Mertens A, Recklitis C, Diller L, Kuhlthau K. Childhood Cancer Survivor Study participants' perceptions and knowledge of health insurance coverage: implications for the 2010 Health Care Reform Law. 32nd Annual Meeting & Scientific Sessions of the Society of Behavioral Medicine, April 2011, platform presentation.

**A1102** Kinahan KE, Sharp LK, Didwania A, Seidel K, Leisenring W, Lacouture ME, Stovall M, Robison LL, Krull KR, Lurie RH. Scarring, disfigurement and quality of life in long-term survivors of childhood cancer: a report from the childhood cancer survivor study. 2011 ASCO Annual Meeting, June 2011, poster presentation; 12th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2012.

**A1103** Pappo AS, Armstrong GT, Liu W, Srivastava DK, Leisenring W, Hammond S, Stovall M, Neglia JP, Robison LL. Melanoma as a subsequent neoplasm in survivors of childhood cancer: a report from the childhood cancer survivor study. 2011 ASCO Annual Meeting, June 2011, oral presentation.

**A1105** Armstrong GT, Chen Y, Kawashima T, Sklar C, Mulroney DA, Chow E, Border W, Durand JB, Mertens A, Stovall M, Leisenring W, Yasui Y, Robison LL, Oeffinger K, Meacham L. Impact of traditional cardiovascular disease risk factors on long-term cardiovascular outcomes in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. 2011 ASCO Annual Meeting, June 2011, oral presentation.

**A1106** Mueller S, Fullerton, HJ, Stratton K, Leisenring W, Weathers R, Stovall M, Armstrong GT, Goldsby RE, Packer RJ, Robison LL, Krull KR. Excess strong risk in adult survivors of childhood CNS tumors, leukemia and Hodgkin's lymphoma: results of the Childhood Cancer Survivor Study. 2011 Child Neurology Annual Meeting, October 2011.

**A1107** Meacham L. Longitudinal assessment of cardiovascular risk factors (CVRF) in adult survivors of pediatric cancer: a report from the childhood cancer survivor study (CCSS). 50<sup>th</sup> Annual Meeting of the European Society for Pediatric Endocrinology (ESPE), September 2011, oral presentation.

**A1108** Hudson M, Oeffinger K, Nathan P, Mertens A, Castellino S, Casillas J, Mulrooney D, Gurney J, Armstrong G, Leisenring W, Robison LL, Ness K. Longitudinal changes in health status of the Childhood Cancer Survivor cohort. Congress of the International Society for Pediatric Oncology (SIOP), October 2011, oral presentation.

**A1109** Wong FL, Bhatia S, Surian S, Landier W, Francisco L, Leisenring W, Hudson M, Armstrong GT, Mertens A, Stovall M, Yasui Y, Robison LL, Lipshultz SE, Armenian S. Evaluation of the effectiveness of the Children's Oncology Groups (COG) long-term follow-up guidelines in reducing the risk of Anthracycline-related congestive heart failure (CHF) in long-term survivors of childhood cancer. European Symposium on Late Complications after Childhood Cancer (ESLCCC), September 2011, oral presentation.

**A1110** Marina N, Hudson M, Mulrooney DA, Avedian R, Donaldson S, Fisher P, Leisenring W, Stovall M, Robison LL, Ness KK. Comparison of health status between upper and lower extremity sarcoma survivors: a report from the Childhood Cancer Survivor Study. Congress of the International Society for Pediatric Oncology (SIOP), October 2011, oral presentation.

**A1111** Klosky JL, Howell C, Li Z, Foster R, Mertens AC, Robison LL, Ness KK. Risky health behavior in adolescent survivors of childhood cancer and their siblings: a report from the Childhood Cancer Survivor Study. Congress of the International Society for Pediatric Oncology (SIOP), October 2011, oral presentation.

**A1112** Klosky JL, Hum A, Zhang N, Ali K, Srivastava DK, Klesges RC, Ness KK, Robison LL, Hudson MM. Smokeless and dual tobacco use among males surviving childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). Congress of the International Society for Pediatric Oncology (SIOP), October 2011, oral presentation.

**A1113** Cox CL, Zhu L, Steen BD, Hudson MM, Robison LL, Oeffinger KC. Survivor profiles of health-related concerns, fear and motivation predict participation in medical surveillance: the Childhood Cancer Survivor Study. American Public Health Association 139<sup>th</sup> Annual Meeting and Exposition, October 2011, platform presentation.

**A1114** Kirchhoff AC, Krull KR, Robison LL, Leisenring W. Physical, mental and neurocognitive status and employment outcomes in the Childhood Cancer Survivor Study cohort. Society for Behavioral Medicine, April 2011, oral presentation.

## 2010

**A1001** Clanton NR, Morris B, Pan Z, Mulrooney D, Jain N, Srivastava DK, Zeltzer L, Stovall M, Robison LL, Krull KR. Fatigue, vitality, sleep quality, and neurocognitive functioning in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. International Neuropsychological Society, February 2010, platform presentation; International Society of Pediatric Oncology, October 2010, oral presentation.

**A1002** Henderson TO, Whitton J, Leisenring W, Neglia J, Meadows A, Crotty C, Oeffinger KC, Diller L, Inskip P, Stovall M, Armstrong G, Robison LL, Nathan PC. Gastrointestinal malignancies as a second malignant neoplasm in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. International Conference on Long-Term Complications of Treatment of Children and Adolescents with Cancer, 2010; American Society of Clinical Oncology Annual Meeting, June 2010, platform presentations.

**A1003** Kirchhoff AC, Krull KR, Ness KK, Park ER, Friedman DL, Armstrong GT, Stovall M, Oeffinger KC, Hudson M, Robison LL, Leisenring W. Occupational status of adult survivors of childhood cancer: a report from the Childhood Cancer Survivors Study. American Society of Preventive Oncology, March 2010, poster presentation.

**A1004** Meacham LR, Ford J, Ritenour C, Wasilewski-Masker K, Shnorhavorian M, Leisenring W, Whitton J, Armstrong G, Stovall M, Sklar C, Robison LL, Mertens A. Male health and perceptions of risk for testicular/sexual dysfunction: a report from the Childhood Cancer Survivor Study. International Conference on Long-Term Complications of Treatment of Children and Adolescents with Cancer, June 2010, poster presentation.

**A1005** Termuhlen A, Tersak J, Liu Q, Yasui Y, Stovall M, Deutsch M, Sklar CA, Robison LL, Green DM. Chronic medical conditions, health status, and health care practices at 25 years in 5-year survivors of Wilms tumor: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, June 2010; International Conference on Long-Term Complications of Treatment of Children and Adolescents with Cancer, June 2010, platform presentations.

**A1006** Armstrong GT, Liu W, Hammond S, Bhatia S, Neglia J, Stovall M, Leisenring W, Yasui Y, Srivastava D, Robison LL. Multiple subsequent neoplasms in the Childhood Cancer Survivor Study (CCSS) cohort. American Society of Clinical Oncology Annual Meeting and International Conference on Long-Term Complications of Treatment of Children and Adolescents with Cancer, June 2010, platform presentations.

**A1007** Vrooman LM, Najita J, Goodman P, Armstrong G, Hudson M, Kenney L, Laverdière C, Leisenring W, Mody R, Nathan P, Oeffinger K, Sklar C, Diller L. Long-Term outcomes after cancer in infancy: a report from the Childhood Cancer Survivor Study (CCSS). International Conference on Long-Term Complications of Treatment of Children and Adolescents with Cancer, June 2010, platform presentation.

**A1008** Ford J, Kawashima T, Whitton J, Leisenring W, Laverdière C, Stovall M, Zeltzer L, Randolph-Frye M, Robison LL, Sklar C. Psychosexual functioning among women in the Childhood Cancer Survivor Study. International Conference on Long-Term Complications of Treatment of Children and Adolescents with Cancer, June 2010, poster presentation.

- A1009** Green DM, Nolan VG, Kawashima T, Stovall M, Donaldson SS, Sklar CA, Robison LL. Effect of hypothalamic/pituitary radiation exposure in low doses on fertility in female Childhood Cancer Survivor Study (CCSS) participants. American Society of Clinical Oncology Annual Meeting, June 2010, poster presentation.
- A1010** Green DM, Zhu L, Stovall M, Nolan V, Ness K, Donaldson SS, Cox C, Oeffinger K, Meacham LR, Sklar CA, Krull K, Armstrong GT, Robison LL. Association of antidepressant use and obesity among Childhood Cancer Survivor Study (CCSS) participants. International Conference on Long-Term Complications of Treatment of Children and Adolescents with Cancer, June 2010, poster presentation.
- A1011** Kunin-Batson A, Kadan-Lottick N, Zhu L, Bordes V, Srivastava DK, Zeltzer L, Robison LL, Krull KR. Predictors of independent living status in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting June 2010, poster presentation.
- A1013** Bhatti P, Veiga LHS, Ronckers CM, Sigurdson AJ, Stovall M, Smith SA, Weathers R, Leisenring W, Mertens AC, Hammond S, Friedman DL, Neglia JP, Meadows AT, Donaldson SS, Sklar CA, Robison LL, Inskip PD. Radiotherapy for childhood cancer and risk of thyroid cancer in a large cohort study. SER, June 2010, submitted.
- A1014** Goldsby R, Chen Y, Yasui Y, Raber S, Li L, Diefenbach K, Shnorhavorian M, Kaden-Lottick N, Kastrinos F, Stovall M, Oeffinger K, Diller L, Armstrong GT, Robison LL, Sklar C. Late gastrointestinal sequelae in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. International Society of Pediatric Oncology, October 2010, oral presentation.
- A1015** Brackett J, Krull K, Scheurer M, Liu W, Srivastava K, Stovall M, Merchant T, Packer R, Robison LL, Ocku MF. Antioxidant enzyme polymorphisms and neuropsychological outcomes in Medulloblastoma survivors: a report from the Childhood Cancer Survivor Study. International Society of Pediatric Oncology, October 2010, poster presentation.
- A1016** Kunin-Batson A, Kadan-Lottick N, Zhu L, Cox C, Border V, Srivastava DK, Zeltzer L, Robison LL, Krull KR. Predictors of independent living after childhood cancer: a report from the Childhood Cancer Survivor Study. International Society of Pediatric Oncology, October 2010, oral presentation.
- A1017** Best T, Skol AD, Gamazon E, Onel K. A functional analysis of variants associated with therapy-induced second malignancies after Hodgkin lymphoma identified by genome-wide scan. 52<sup>nd</sup> American Society of Hematology Annual Meeting and Exposition, December 2010, poster.
- A1018** Cozen W, Li D, Best T, Van Den Berg D, Skol AD, Cortessis VK, Mack TM, Glaser SL, Schumacher G, Weiss LM, Nathwani BN, Edlund CK, Hwang A, Bhatia S, Strong LC, Robison LL, Conti DV, Onel K. A Meta-analysis of nodular sclerosis Hodgkin lymphoma identifies risk Loci at 6p21.32. 52<sup>nd</sup> American Society of Hematology Annual Meeting and Exposition, December 2010, poster.
- A1019** Cozen W, Li D, Best T, Van Den Berg D, Skol AD, Cortessis VK, Mack TM, Glaser SL, Schumacher G, Weiss LM, Nathwani BN, Edlund CK, Hwang A, Bhatia S, Strong LC, Robison LL, Conti DV, Onel K. A Meta-analysis of nodular sclerosis Hodgkin lymphoma identifies risk Loci at 6p21. 32<sup>nd</sup> International Lymphoma Epidemiology Consortium, April 2010, oral presentation.
- ## 2009
- A0901** Nathan PC, Ness KK, Hudson MM, Mahoney M, Ford JS, Landier W, Armstrong GT, Henderson T, Robison LL, Oeffinger KC. Cancer screening in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology Annual Meeting, June 2009, platform presentation.
- A0902** Boukheris H, Neglia JP, Stovall M, Hammond S, Mertens AC, Meadows AT, Donaldson SS, Armstrong GT, Stratton KL, Robison LL, Inskip PD. Risk of salivary gland carcinoma among childhood cancer survivors: role of treatment and cigarette smoking. ISS Conference, May 2009.
- A0903** Bornstein MH, Haynes OM, Leisenring W, Hayashi R, Armstrong GT, Robison LL, Zeltzer L. Mental retardation and learning disability in survivors of childhood cancer diagnosed in infancy: a report from the Childhood Cancer Survivor Study. Society for Research in Child Development, 2009.
- A0904** Stuber M, Meeske K, Zebrack B, Krull K, Stratton K, Leisenring W, Robison LL, Zeltzer L. Prevalence and predictors of posttraumatic stress disorder in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology, 2009, platform presentation.
- A0905** Krull KR, Huang S, Hudson MM, Gurney JG, Srivastava DK, Klosky J, Ness KK, Leisenring W, Termuhlen A, Robison LL. Adolescent psychopathology and adult health behaviors in long-term survivors of childhood cancer: Findings from the Childhood Cancer Survivors Study. American Society of Clinical Oncology, 2009.

**A0906** Kirchhoff AC, Leisenring W, Ness KK, Park ER, Friedman DL, Oeffinger KC, Armstrong GT, Krull KR, Robison LL, Wickizer T. Health-related unemployment among survivors and siblings in the Childhood Cancer Survivor Study (CCSS). National Research Service Award trainees meeting at Academy Health, June 2009, oral presentation.

## 2008

**A0801** Mulrooney DA, Yeazel M, Mitby P, Kawashima T, Leisenring WM, Stovall M, Green DM, Sklar CA, Robison LL, Mertens AC. Cardiovascular disease in adult survivors of childhood and adolescent cancer: a report from the CCSS. International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2008; American Society of Clinical Oncology Annual Meeting, June 2008, oral presentation.

**A0802** Armstrong GT, Ness KK, Whitton J, Leisenring W, Yasui Y, Zeltzer L, Donaldson SS, Hudson M, Robison LL, Packer R. Long-term outcomes among survivors of childhood central nervous system tumors: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology, June 2008, oral presentation; International Symposium on Pediatric Neuro-Oncology, June 2008; Child Neurology Society, 2008.

**A0803** Armstrong GT, Whitton J, Chow E, Leisenring W, Gajjar A, Kun L, Robison LL, Sklar C. Abnormal timing of menarche in survivors of childhood central nervous system tumors. International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2008; ISPNO 13<sup>th</sup> Annual Meeting, June 2008.

**A0804** Ellenberg L, Gioia G, Liu Q, Yasui Y, Packer R, Mertens A, Donaldson S, Kaden-Lottick N, Armstrong GT, Robison LL, Zeltzer LK. Executive functioning in long-term survivors of childhood brain tumors: a report from the Childhood Cancer Survivor Study (CCSS). International Neuropsychosocial Society Annual Meeting, February 2008.

**A0805** Laverdière C, Liu Q, Yasui Y, Nathan P C, Gurney JG, Stovall M, Diller LR, Cheung NK, Wolden S, Robison LL, Sklar CA. Long-term outcomes in survivors of neuroblastoma: a report from the Childhood Cancer Survivor Study. International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2008.

**A0806** Lown EA, Goldsby R, Mertens AC, Greenfield T, Bond J, Whitton J, Korcha R, Robison LL, Zeltzer LK. Alcohol consumption patterns and risk factors among childhood cancer survivors compared to siblings and general population peers. International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2008.

**A0807** Bluhm E, Oeffinger K, Sklar CA, Meadows A, Hayashi R, Mertens AC, Kawashima T, Donaldson S, Meacham L, Stovall M, Robison LL, Inskip P. Risk factors for common health conditions occurring five years after NHL: a report from the Childhood Cancer Survivor Study (CCSS). International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2008.

**A0808** Ginsberg JP, Ness K, Goodman P, Leisenring W, Robison LL, Oeffinger KC. Long-term follow-up among survivors of childhood Ewing's sarcoma: a report of the Childhood Cancer Survivor Study (CCSS). International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2008.

**A0809** Ness KK, Leisenring WM, Huang S, Hudson MM, Gurney JG, Whelan K, Hobbie WL, Lancot JQ, Armstrong GT, Robison LL, Oeffinger KC. Physical activity – patterns and predictors of sedentary lifestyle among adult survivors of childhood cancer. International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2008.

**A0810** Meacham LR, Chow EJ, Kamdar KY, Ness KK, Chen Y, Yasui Y, Oeffinger KC, Sklar CA, Robison LL, Mertens AC. Cardiovascular risk factor cluster in adult survivors of pediatric cancer: a report of the Childhood Cancer Survivor Study (CCSS). International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2008.

**A0811** Oeffinger KC, Ford JS, Moskowitz CS, Diller L, Hudson MM, Chou JF, Smith S, Mertens AC, Robison LL. Mammogram practices of women at risk for breast cancer following chest radiation for a pediatric cancer: a report from the Childhood Cancer Survivor Study (CCSS). International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2008.

**A0812** Smith S, Ford JS, Rakowski W, Moskowitz CS, Robison LL, Oeffinger KC. Decisional balance, stages of adoption, and screening mammography among women at risk of breast cancer following a pediatric malignancy: a report from the Childhood Cancer Survivor Study (CCSS). International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2008.

**A0813** Mertens A, Leisenring W, Mitby P, Hammond S, Perkins J, Robison LL, Hudson M, Meadows A. Sun sensitivity, sun exposure and risk of skin cancer in a cohort of adult survivors of childhood and adolescent cancer. A report from the Childhood Cancer Survivor Study (CCSS). International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2008; 4<sup>th</sup> Biennial Cancer Survivorship Research Conference, June 2008.

**A0814** Bornstein MC, Haynes M, Hayashi R, Leisenring W, Armstrong GT, Robison LL, Zeltzer L. Mental retardation and learning disability in survivors of childhood cancer diagnosed in infancy: a report from the Childhood Cancer Survivor Study. International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2008.

**A0815** Henderson T, Rajaraman P, Stovall M, Olive A, Smith S, Mertens A, Meadows A, Neglia J, Whitton J, Inskip P, Robison LL, Diller L. New primary sarcomas in survivors of childhood cancer: a detailed analysis of the effects of treatment: a report from the Childhood Cancer Survivor Study. International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2008; American Society of Clinical Oncology, June 2008, oral presentation.

**A0816** Lown EA, Goldsby R, Mertens AC, Korch R, Greenfield T, Bond J, Whitton J, Robison LL, Zeltzer LK. Adult siblings of childhood cancer survivors are heavy drinkers: which siblings are at risk? A report from the Childhood Cancer Survivor Study. American Public Health Association, October 2008, poster presentation.

**A0817** Lu Q, Tsao JCI, Leisenring W, Armstrong GT, Robison LL, Zeltzer LK. Posttraumatic stress symptoms, pain and related impairment among adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). 4<sup>th</sup> Biennial Cancer Survivorship Research Conference, June 2008.

**A0818** Castellino SM, Tooze J, Geiger A, Leisenring W, Goodman P, Mertens A, Stovall M, Robison LL, Hudson M. Risks of mortality in 5-year survivors of Hodgkin's Lymphoma in the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, June 2008, oral presentation.

**A0819** Green DM, Kawashima T, Leisenring W, Stovall M, Donaldson S, Sklar CA, Byrne J, Robison LL. Fertility of females after treatment for childhood cancer: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology Annual Meeting, June 2008, oral presentation.

**A0820** Cox CL, Montgomery M, Oeffinger K, Leisenring W, Zeltzer L, Whitton J, Mertens A, Hudson MM, Robison LL. Childhood cancer survivors: patient and provider influences on physical activity participation. 4<sup>th</sup> Biannual Cancer Survivorship Research Conference, June 2008.

**A0821** Cox CL, Hudson M, Oeffinger K, Whitton J, Montgomery M, Mertens A, Robison LL. Determinants of participation in recommended medical screening by at-risk adult survivors of childhood cancer. American Public Health Association Meeting & Exposition, October 2008, oral presentation.

**A0822** Mertens AC, Leisenring W, Mitby P, Meadows A, Robison LL, Hudson M. Sun protection behaviour in a cohort of adult survivors of childhood and adolescent cancer. A report from the Childhood Cancer Survivor Study (CCSS). International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer, June 2008, platform presentation.

**A0823** Klesges LM, Ness KK, Lanctot JQ, Lown A, Whalen K, Huang S, Leisenring W, Stovall M, Oeffinger K, Robison LL, Hudson M. Prevalence and clustering of multiple behavioural risk factors in adult survivors of childhood cancer. 4<sup>th</sup> Biennial Cancer Survivorship Research Conference: Mapping the New Challenges, June 2008, poster presentation.

**A0824** Goldsby R, Nathan P, Bowers D, Yeaton-Massey A, Raber S, Hill D, Robison LL, Liu Q, Yutaka Y, Zeltzer L, Armstrong GT, Packer R. Long-term neurologic outcomes in adult survivors of childhood acute lymphoblastic leukaemia: results from the Childhood Cancer Survivor Study (CCSS). Child Neurology Society, 2008.

**A0825** Cox CL, Mertens A, Hudson M, Whitton J, Montgomery M, Robison LL. Determinants of mammography screening participation in adult female survivors of childhood cancer. 2008 ASCO Breast Cancer Symposium, September 2008, poster presentation.

## 2007

**A0701** Green DM, Kawashima T, Leisenring W, Stovall M, Donaldson SS, Sklar CA, Byrne J, Robison LL. Fecundity of males after treatment for childhood cancer. A report from the Childhood Cancer Survivor Study (CCSS). ASCO Annual Meeting, 2007.

**A0702** Green DM, Kawashima T, Leisenring W, Stovall M, Donaldson SS, Sklar CA, Byrne J, Robison LL. Fertility of males after treatment for childhood cancer. A report from the Childhood Cancer Survivor Study (CCSS). SIOP 2007.

**A0703** Lown EA, Goldsby R, Mertens AC, Greenfield T, Bond J, Whitton J, Korch R, Robison LL, Zeltzer LK. Alcohol Consumption patterns and risk factors among childhood cancer survivors compared to siblings and general population peers. American Psychosocial Oncology Society, 2007.

**A0704** Nathan PC, Greenberg ML, Ness KK, Mahoney MC, Gurney JG, Hudson MM, Donaldson SS, Leisenring WM, Robison LL, Oeffinger KC. Risk-based care in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). ASCO Annual Meeting, June 03, 2007.

**A0705** Wasilewski-Masker K, Leisenring W, Meacham LR, Hammond S, Meadows AT, Robison LL, Mertens AC. Late recurrence in survivors of childhood and adolescent cancer: a report from the Childhood Cancer Survivor Study (CCSS). ASCO Annual Meeting, 2007

**A0706** Kaste SC, Baker S, Goodman P, Leisenring W, Stovall M, Hayashi R, Yeazel M, Hudson MM, Sklar C, Robison LL. Dental health of long-term survivors of childhood cancer: the childhood cancer survivor study (CCSS). ASCO Annual Meeting, 2007

**A0707** Garney EG, Liu Q, Sklar CA, Meacham LR, Stovall M, Yasui Y, Robison LL, Oeffinger KC. Obesity in adult survivors of childhood acute lymphoblastic leukemia: a follow-up report from the childhood cancer survivor study. ASCO Annual Meeting, 2007.

**A0708** Laverdiere C, Liu Q, Yasui Y, Nathan PC, Gurney J, Stovall M, Diller L, Cheung NK, Wolden S, Robison LL, Sklar CA. Long-term complications of neuroblastoma: A report from the childhood cancer survivor study. ASCO Annual Meeting, 2007.

**A0709** Bluhm EC, Ronckers C, Hayashi RJ, Neglia JP, Mertens AC, Meadows AT, Mitby PA, Stovall M, Robison LL, Inskip PD. Cause-specific mortality and second cancer incidence after non-Hodgkin lymphoma: a report from the Childhood Cancer Survivor Study. ASH Annual Meeting, 2007.

## 2006

**A0601** Baker SK, Leisenring W, Hayashi R, Mertens A, Stovall M, Donaldson S, Robison LL, Sklar C. Impact of hematopoietic cell transplantation with total body irradiation on the health status of childhood leukemia survivors: a Report for the CCSS. American Society of Hematology, 2006.

**A0602** Casillas J, Brooks S, Mertens A, Hudson M, Robison LL, Oeffinger K. The impact of psychosocial factors on access to care in adult minority survivors: a Childhood Cancer Survivor Study. Western Society for Pediatric Research, 2006, platform presentation.

**A0603** Henderson T, Whitton J, Hammond S, Stovall M, Meadows A, Mertens A, Neglia J, Robison LL, Diller L. Sarcoma as a subsequent malignancy in survivors of childhood malignancy: a report from the CCSS. 9th International Conference on Long Term Complications of Treatment of Children and Adolescent for Cancer, 2006, poster presentation.

**A0604** Lansdale M, Marina N, Castellino S, Goodman P, Hudson MM, Mertens AC, Sklar CA, Leisenring W, Robison LL, Oeffinger KC. Screening for Hepatitis C Virus (HCV) Infection in long-term pediatric cancer survivors: a report from the Childhood Cancer Survivor Study (CCSS). Third biennial NCI Cancer Survivorship Conference, 2006, poster presentation.

**A0605** Laverdiere C, Liu Q, Yasui Y, Nathan PC, Gurney J, Stovall M, Diller L, Cheung N, Wolden S, Robison LL, Sklar CA. Long-term complications in survivors of neuroblastoma: a report from the Childhood Cancer Survivor Study. ASCO, 2006.

**A0606** Lu Q, Tsao JCI, Leisenring W, Robison LL, Zeltzer LK. Pain prevalence among long-term survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). Third biennial NCI Cancer Survivorship Conference, 2006, poster presentation.

**A0607** Mertens AC, Schultz KA, Ness KK, Whitton J, Recklitis C, Zebrack B, Zeltzer L, Robison LL. Social adjustment in survivors of childhood cancer: a report from the CCSS. American Psychosocial Oncology Society, 2006, poster presentation.

**A0608** Mertens AC, Steele JR, Goodman P, Oeffinger KC, Robison LL, Hudson MM. Follow-Up care in cancer survivors: newsletters can't do it alone - a report from the Childhood Cancer Survivor Study. American Psychosocial Oncology Society, 2006, platform presentation.

**A0609** Mitby PA, Mertens AC, Hudson MM, Eshelman DE, Jacox C, Jones JK, Kamani S, Allam RK, Oeffinger KC. Does a cognitive-based intervention increase the likelihood of screening for serious late effects in adult survivors of childhood cancer? Project vision: a report from CCSS. 9th International Conference on Long Term Complications of Treatment of Children and Adolescent for Cancer, 2006, platform presentation.

**A0610** Mulrooney DA, Dover DC, Yasui Y, Ness K, Mertens AC, Neglia JP, Sklar CA, Robison LL, Davies SM. Twenty years of follow-up among survivors of childhood and young adult Acute Myeloid Leukemia (AML): a report from the Childhood Cancer Survivor Study (CCSS). American Society of Hematology, 2006, media platform presentation.

**A0611** Ness K, Mertens AC, Zeltzer L, Gurney J, Leisenring W, Robison LL. Physical performance and health related quality of life in adult survivors of childhood cancer. Psychosocial and Neurocognitive Consequences of Childhood Cancer, 2006, platform presentation.

**A0612** Schultz KAP, Ness KK, Whitton J, Recklitis C, Zebrack B, Robison L, Zeltzer L, Mertens AC. Social adjustment of adolescent survivors in the Childhood Cancer Survivor Study. 9th International Conference on Long Term Complications of Treatment of Children and Adolescent for Cancer, 2006, platform presentation.

**A0613** Whelan KF, Kawashima T, Mitby P, Blatt J, Waterbor J, Castleberry R, Sande J, Packer R, Sklar C, Robison LL, Mertens A. Auditory and speech complications on childhood cancer survivors: a report from CCSS. 9th International Conference on Long Term Complications of Treatment of Children and Adolescent for Cancer, 2006, platform presentation.

**A0614** Whelan K, Mertens A, Castleberry R, Mitby P, Kawashima T, Sklar C, Packer R, Waterbor J, Blatt J, Robison LL. Visual complications in childhood cancer survivors: a Childhood Cancer Survivor Study report. American Society of Clinical Oncology, 2006, platform presentation.

## 2005

**A0501** Owen JE, Kawashima T, Myers CD, Lu Q, Zebrack B, Mertens A, Robison LL, Zeltzer LK. Pain prevalence and retrospective incidence in childhood cancer survivors: a report from the Childhood Cancer Survivor Study. American Society of Psychosocial Oncology, January 2005, platform presentation.

**A0502** Nagarajan R, Clohisey DR, Neglia JP, Sklar C, Robison LL. Amputation in pediatric lower extremity bone sarcoma survivors: predictors of function and quality of life. American Society of Pediatric Hematology-Oncology meeting May 2005, poster presentation.

**A0503** Ness KK, Mertens AC, Hudson MM, Wall MM, Leisenring WM, Oeffinger KC, Sklar CA, Robison LL, Gurney JG. Physical performance limitations and participation restrictions among long-term childhood cancer survivors: the Childhood Cancer Survivor Study. American Society of Pediatric Hematology-Oncology, May 2005, poster presentation.

**A0504** Gurney JG, O'Leary M, Ness KK, Shalamar SD, Baker KS. Metabolic syndrome and growth hormone deficiency in adult survivors of childhood leukemia. American Society of Pediatric Hematology-Oncology, May 2005, submitted.

**A0505** Oeffinger K, Mertens A, Sklar C, Kawashima T, Hudson M, Meadows A, Marina N, Kadan-Lottick N, Leisenring L, Robison LL. Prevalence and severity of chronic diseases in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology, May 2005, platform presentation, plenary session.

**A0506** Mertens A, Yasui Y, Liu Y, Neglia J, Robison LL. Late cause-specific mortality in long-term survivors of childhood and adolescent cancer: an update from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology, May 2005, poster presentation.

**A0507** Henderson T, Whitton J, Hammond S, Stovall M, Meadows A, Mertens A, Neglia J, Robison LL, Cook F, Diller L. Sarcomas as a subsequent malignancy in survivors of pediatric malignancy: the Childhood Cancer Survivor Study. American Society of Clinical Oncology, May 2005, platform presentation.

**A0508** Bowers DC, McNeil DE, Liu Y, Leisenring W, Gurney J, Stovall M, Donaldson SS, Packer RJ, Robison LL, Oeffinger KC. Risk of stroke among >5-year survivors of childhood leukemia and brain tumors: A report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology, May 2005, platform presentation.

**A0509** Casillas J, Castellino DM, Hudson MM, Mertens AC, Whitton J, Brooks SL, Zeltzer LK, Ablin A, Robison LL, Oeffinger KC. The effect of insurance and ethnicity on healthcare access and health behaviors: the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology, May 2005, poster presentation.

**A0510** Mertens AC, Neglia JP, Hammond S, Perkins JL, Liu Y, Robison LL. Incidence rates of keratinocyte carcinoma (KC) in survivors of childhood and adolescent cancer: a report from the Childhood Cancer Survivor Study (CCSS). Society of Investigative Dermatology, May 2005, platform presentation, plenary session.

**A0511** Ergun-Longmire B, Mertens AC, Mitby P, Quin J, Heller G, Yasui Y, Robison LL, Sklar CA. Risk of second neoplasms in survivors of childhood cancer treated with growth hormone: an updated report from the Childhood Cancer Survivor Study. Endocrine Society, 2005, platform presentation.

**A0512** Chemaitilly W, Mertens AC, Mitby P, Whitton J, Stovall M, Yasui Y, Robison LL, Sklar CA. Acute ovarian failure in survivors of childhood and adolescent cancer: data from the Childhood Cancer Survivor Study. Endocrine Society, 2005, poster presentation.

## 2004

**A0401** Sigurdson A, Ronckers C., Mertens A, Sklar C, Stovall M, Smith S, Liu Y, Hammond S, Berkow R, Neglia J, Meadows A, Robison LL, Inskip P. Second primary thyroid cancer after a first childhood malignancy: a report from the Childhood Cancer Survivor Study. American Association for Cancer Research, 2004, oral presentation.

**A0402** Lu Q, Myers CD, Owen J, Zebrack BJ, Zevon MA, Mertens A, Robison LL, and Zeltzer LK. Pain prevalence among long-term survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). American Pain Society, 2004, poster presentation.

- A0403** Recklitis CJ, Hudson MM, Zebrack BJ, Mertens AC, Mitby PA, Nagarajan R, Robison LL, Zeltzer L. Psychosocial functioning in a large-scale cohort of childhood cancer survivors: a report from the Childhood Cancer Survivor Study. American Psychosocial Oncology Society, 1st annual conference, 2004, oral presentation.
- A0404** Bassal M, Kadan-Lottick NS, Neglia J, Taylor L, Yasui Y, Friedman DL, Mertens AC, Robison LL, Meadows AT. Risk of rare adult-type carcinomas as a subsequent neoplasm in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology, 2004, poster presentation; 8th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer (Niagara-on-the-Lake), 2004, poster presentation.
- A0405** Bowers DC, McNeil DE, Liu Y, Yasui Y, Stovall M, Gurney JG, Hudson MM, Robison LL, Oeffinger KC. Stroke following therapy for Hodgkin Disease (HD): a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology, 2004, poster presentation; 8th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer (Niagara-on-the-Lake), 2004, oral presentation.
- A0406** Friedman DL, Whitton J, Yasui Y, Mertens AC, Hammond S, Stovall M, Donaldson SS, Meadows AT, Robison LL, Neglia JP. Risk of second malignant neoplasms (SMN) 20 years after childhood cancer: the updated experience of the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology, 2004, oral presentation.
- A0407** Friedman DL, Whitton J, Yasui Y, Mertens AC, Hammond S, Stovall M, Donaldson SS, Meadows AT, Robison LL, Neglia JP. Second malignant neoplasms in five-year survivors of childhood cancer: an update from the Childhood Cancer Survivor Study (CCSS). 8th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer (Niagara-on-the-Lake), 2004, oral presentation.
- A0408** Termuhlen A, Tersak J, Hudson M, Mertens A, Gimpel N, Bleyer W, Yasui Y, Robison LL, Oeffinger K. Health status, medical care, preventive screening, and risk behaviors in adult survivors of cancer diagnosed during adolescence: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology, 2004, poster presentation; 8th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer (Niagara-on-the-Lake), 2004, poster presentation.
- A0409** Meacham LR, Gurney JG, Mertens AC, Ness KK, Sklar CA, Robison LL, Oeffinger KC. Body mass index (BMI) and final height in adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). Society for Pediatric Research, 2004, poster presentation; 8th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer (Niagara-on-the-Lake), 2004, oral presentation.
- A0410** Meacham LR, Gimpel N, Overa R, Whitton JA, Sklar CA, Robison LL, Oeffinger KC. Diabetes mellitus in long-term survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). Society for Pediatric Research, 2004, poster presentation; 8th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer (Niagara-on-the-Lake), 2004, poster presentation.
- A0411** Sklar C, Mertens A, Mitby P, Whitton J, Stovall M, Mulder J, Green D, Nicholson S, Yasui Y, Robison LL. Premature menopause in survivors of childhood and adolescent cancer: data from the Childhood Cancer Survivor Study (CCSS). Society for Pediatric Research, 2004, oral presentation; 8th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer (Niagara-on-the-Lake), 2004, oral presentation.
- A0412** Castellino SM, Hudson MM, Mertens AC, Yeazel M, Whitton J, Brooks S, Ablin A, Castleberry RP, Hobbie WL, Kaste S, Robison LL, Oeffinger KC. Comparison of long-term outcomes, health care utilization, and health behaviors in young adult African-American (AA) survivors of childhood cancer with white, non-Hispanic (WNH) survivors: a Childhood Cancer Survivor Study (CCSS). Pediatric Academic Societies, 2004, poster presentation; 8th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer (Niagara-on-the-Lake), 2004, poster presentation.
- A0413** Perkins JL, Liu Y, Mitby PA, Neglia JP, Hammond S, Stovall M, Meadows AT, Hutchinson R, Dreyer Z, Robison LL, Mertens AC. Nonmelanoma skin cancer (NMSC) in survivors of childhood and adolescent cancer: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology, 2004, oral presentation; 8th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer (Niagara-on-the-Lake), 2004, oral presentation.
- A0414** Mulrooney DA, Mertens AC, Neglia JP, Green DM, Zeltzer L, Robison LL. Fatigue and sleep in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology, 2004, poster presentation; 8th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer (Niagara-on-the-Lake), 2004, poster presentation.
- A0415** Owen JE, Myers CD, Lu Q, Zebrack B, Zevon M, Mertens AC, Robison LL, Zeltzer LK. Pain prevalence in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). 8th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer (Niagara-on-the-Lake), 2004, poster presentation.

**A0416** Mertens A, Riley A, Patenaude A, Bursch B, Robison LL, Zeltzer L. Health and well-being in adolescent survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. Cancer Survivorship: Pathways to Health after Treatment Symposium, 2004, poster presentation.

## 2003

**A0301** Neglia J, Inskip P, Liu Y, Yasui Y, Hammond S, Stovall M, Packer R, Meadows A, Mertens A, Robison LL. Subsequent neoplasms (SNS) of the central nervous system (CNS) in survivors of childhood cancer: a case/control study from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology, 2003, oral presentation.

**A0302** Brownstein C, Mertens A, Mitby P, Stovall M, Qin J, Heller G, Robison LL, Sklar C. Factors that affect final height and change in height SDS in survivors of childhood cancer treated with growth hormone (GH): a report from the Childhood Cancer Survivor Study (CCSS). Pediatric Academic Societies' Annual Meeting, 2003, poster presentation.

**A0303** Yeazel M, Oeffinger K, Gurney J, Mertens A, Hudson M, Emmons K, Chen H, Robison LL. The cancer screening practices of long-term childhood cancer survivors. American Association for Cancer Research, 2003, poster presentation.

**A0304** Perkins J, Yasui Y, Liu Y, Hammond S, Stovall M, Neglia J, Meadows A, Robison LL, Mertens A. Nonmelanoma skin cancer (NMSC) in survivors of childhood cancer: A report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology, 2003, oral presentation.

**A0305** Mertens A, Mitby P, Radloss G, Perentesis J, Kiffmeyer W, Neglia J, Meadows A, Jones I, Potter J, Friedman D, Yasui Y, Robison L, Davies S. XRCC1 and glutathione s-transferase polymorphism and susceptibility to therapy-related cancer in Hodgkin's disease survivors: a report from the Childhood Cancer Survivor Study. American Association for Cancer Research, 2003, oral presentation.

**A0306** Mulrooney D, Mertens A, Neglia J, Green D, Zeltzer L, Robison L. Fatigue and sleep disturbance in survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology, 2003, poster presentation.

## 2002

**A0201** The Investigators of the Childhood Cancer Survivor Study (CCSS). Long-Term outcomes among 5-year survivors of childhood and adolescent cancers. American Society of Pediatric Hematology/Oncology, 2002, oral presentation.

**A0202** Nagarajan R, Clohisey D, Greenberg M, Neglia JP, Sklar C, Yasui Y, Zeltzer L, Robison LL. Limb function and quality of life (QOL) of survivors of pediatric lower limb bone tumors: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology, 2002, poster presentation.

**A0203** Mitby PA, Robison LL, Whitton JA, Zevon MA, Gibbs IC, Tersak JM, Meadows AT, Stovall M, Zeltzer LK, Mertens AC. Utilization of special education (SE) services and educational attainment (EA) among long-term survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology, 2002, poster presentation.

**A0204** Hudson MM, Oeffinger K, Mertens A, Hobbie W, Chen H, Gurney J, Yeazel M, Robison LL. General health status of long-term childhood cancer survivors: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology, 2002, oral presentation.

**A0205** Kadan-Lottick N, Robison LL, Gurney J, Neglia J, Yasui Y, Hayashi R, Hudson M, Greenberg M, Mertens A. What do childhood cancer survivors know about their past diagnosis and treatment? A report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology, 2002, poster presentation.

**A0206** Oeffinger KC, Mertens A, Sklar C, Yasui Y, Fears T, Stovall M, Robison LL. Obesity in Adult survivors of childhood acute leukemia: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology, 2002, poster presentation.

**A0207** Mertens A, Yasui Y, Liu Y, Stovall M, Hutchinson R, Sklar C, Robison LL. Pulmonary complications in survivors of childhood and adolescent cancer: a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology, 2002, poster presentation.

**A0208** Nagarajan R, Clohisey DR, Greenberg M, Neglia JP, Sklar C, Zeltzer L, Yasui Y, Robison LL. Limb Function and quality of life (QOL) of survivors of pediatric lower extremity bone tumors: a report from the Childhood Cancer Survivor Study. 7th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer (Niagara-on-the-Lake), 2002, oral presentation.

**A0209** Kenney LB, Diller L, Friedman D, Neglia J, Yasui Y, Mertens A, Inskip P, Meadows A, Robison LL. Risk factors for breast cancer (BC) in women from the Childhood Cancer Survivor Study (CCSS). 7th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer (Niagara-on-the-Lake), 2002, oral presentation.

**A0210** Oeffinger K, Mertens A, Hudson M, Castillo J, Gurney J, Yeazel M, Chen H, Robison LL. Health care utilization of adult survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. 7th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer (Niagara-on-the-Lake), 2002, oral presentation.

**A0211** Oeffinger K, Mertens A, Sklar C, Yasui Y, Fears T, Stovall M, Vik T, Robison LL. Acute lymphoblastic leukemia and obesity: a report from the Childhood Cancer Survivor Study. 7th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer (Niagara-on-the-Lake), 2002, oral presentation.

**A0212** Pang JWY, Friedman DL, Whitton J, Weiss NS, Mertens A, Robison LL. Employment status of adult survivors of pediatric cancers: a report from the Childhood Cancer Survivor Study (CCSS). 7th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer (Niagara-on-the-Lake), 2002, oral presentation.

**A0213** Mertens A, Yasui Y, Liu Y, Stovall M, Hutchinson R, Sklar C, Robison LL. Pulmonary complications in survivors of childhood and adolescent cancer: a report from the Childhood Cancer Survivor Study (CCSS). 7th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer (Niagara-on-the-Lake), 2002, oral presentation.

**A0214** Yasui Y, Liu Y, Neglia J, Friedman D, Bhatia S, Meadows A, Mertens A, Whitton J, Robison LL. A cautionary note on the methodology for the analysis of second malignant neoplasm (SMN) risk in childhood cancer survivors: breast SMN after Hodgkin disease as an example. 7th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer (Niagara-on-the-Lake), 2002, oral presentation.

**A0215** Mitby P, Robison LL, Whitton J, Zevon M, Gibbs I, Tersak J, Meadows A, Stovall M, Zeltzer L, Mertens A. Utilization of special education services and educational attainment among long-term survivors of childhood cancer: a report from the Childhood Cancer Survivor Study (CCSS). 7th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer (Niagara-on-the-Lake), 2002, oral presentation.

**A0216** Gurney JG, Punyko J, Neglia J, Packer R, Sklar C, Kadan-Lottick N, Nicholson HS, Wolden S, McNeil DE, Mertens A, Robison LL. Non-neurological late effects among childhood brain tumor survivors: an analysis from the childhood cancer survivors study. 7th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer (Niagara-on-the-Lake), 2002, oral presentation.

**A0217** Kadan-Lottick N, Robison LL, Gurney J, Neglia J, Yasui Y, Hayashi R, Hudson M, Greenberg M, Mertens A. What do childhood cancer survivors know about their past diagnosis and treatment? A report from the Childhood Cancer Survivor Study. 7th International Conference on Long-Term Complications of Treatment of Children and Adolescents for Cancer (Niagara-on-the-Lake), 2002, oral presentation.

## 2001

**A0101** Sklar C, Mertens A, Mitby P, Qin J, Heller G, Yasui Y, Robison LL. Risk of Disease recurrence and second neoplasms (SN) in survivors of childhood cancer treated with growth hormone (GH): data from the Childhood Cancer Survivor Study (CCSS). Pediatric Endocrine Society, 2001, oral presentation.

**A0102** Green D, Whitton J, Stovall M, Mertens A, Donaldson S, Ruymann F, Pendergrass T, Robison LL. Pregnancy outcome of partners of male survivors of childhood cancer. A report from the Childhood Cancer Survivor Study (CCSS). American Association of Cancer Research, 2001, poster presentation.

**A0103** Kadan N, Friedman D, Mertens A, Yasui Y, Whitton J, Robison LL, Strong L. Clarification of Self-Reported Family history data by telephone interview: a report from the Childhood Cancer Survivor Study (CCSS). American Association of Cancer Research, 2001, poster presentation.

**A0104** Friedman D, Kadan-Lottick N, Liu Y, Mertens A, Robison LL, Strong L. History of Cancer among First-Degree relatives of childhood cancer survivors: a report from the Childhood Cancer Survivor Study. American Society of Clinical Oncology, 2001, poster presentation.

**A0105** Neglia J, Yasui Y, Mertens A, Friedman D, Hammond S, Donaldson S, Stovall M, Meadows A, Robison LL. Second primary neoplasms (SPNs) of the central nervous system (CNS) in five year survivors of childhood cancer — a report from the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology, 2001, oral presentation.

**A0106** Gurney JG, Packer R, Punyko J, Sklar C, Kadan-Lottick N, Neglia J, Nicholson S, Wolden S, McNeil E, Mertens A, Robison LL. Non-neurological late effects among childhood brain tumor survivors: a preliminary analysis from the Childhood Cancer Survivor Study. Society for Neuro-Oncology, 2001, oral presentation.

**A0107** The Investigators of the Childhood Cancer Survivor Study (CCSS). Long-term outcomes among survivors of cancer during childhood and adolescence. Society for Epidemiologic Research, 2001, poster presentation.

**A0108** Mulvihill JJ, Strong LC, Robison LL. Genetic disease in offspring of survivors of childhood and adolescent cancer. American Society of Human Genetics, 2001, poster presentation.

**A0109** Hammond S, Neglia J, Qualman S, Mertens A, Yasui Y, Meadows A, Robison LL. Tissue archive of second malignant neoplasms (SMN) in the Childhood Cancer Survivor Study (CCSS). Pediatric Academic Societies, 2001, poster presentation.

## 2000

**A0001** Packer RJ, Gurney J, Zeltzer L, Mertens A, Robison LL. Long-Term Neurologic and Neurocognitive status of childhood brain tumors: a Childhood Cancer Survivor Study (CCSS) Report. Society for Neuro-Oncology, 2000, oral presentation.

**A0002** Neglia J, Yasui Y, Mertens A, Friedman D, Hammond S, Donaldson S, Stovall M, Meadows A, Robison LL. Second primary neoplasms (SPNs) of the central nervous system (CNS) in five-year survivors of childhood cancer--a report from the Childhood Cancer Survivor Study (CCSS). International Pediatric Neuro-Oncology Symposium, 2000, oral presentation.

## 1999

**A9901** Sklar C, Whitton J, Mertens A, Stovall M, Green D, Marina N, Greffe B, Wolden S, Robison LL. Thyroid dysfunction in survivors of Hodgkin's disease (HD): data from the Childhood Cancer Survivor Study (CCSS). American Pediatric Society and Society for Pediatric Research, 1999, oral presentation.

**A9902** Mertens A, Neglia J, Yasui Y, Potter J, Nesbit M, Ruccione K, Smithson A, Robison LL. Mortality rates and causes of death in 5-year survivors of childhood and adolescent cancer. American Society of Clinical Oncology, 1999, oral presentation.

**A9903** Neglia J, Mertens A, Yasui Y, Hammond S, Friedman D, Donaldson S, Meadows A, Robison LL. Risk of second primary neoplasms (SPNs) in survivors of childhood cancer--initial analysis of the Childhood Cancer Survivor Study (CCSS). American Society of Clinical Oncology, 1999, oral presentation.

**A9904** Neglia J, Mertens A, Yasui Y, Hammond S, Friedman D, Donaldson S, Meadows A, Robison LL. Risk factors for second primary neoplasms (SPNs) in long-term survivors of childhood cancer--initial analysis of the Childhood Cancer Survivor Study (CCSS). International Society of Paediatric Oncology-American Society of Pediatric Hematology-Oncology meeting, 1999, oral presentation.

**A9905** Mertens A, Neglia J, Yasui Y, Potter J, Nesbit M, Ruccione K, Smithson A, Robison LL. Mortality in five-year survivors of childhood and adolescent cancer — preliminary analysis of the Childhood Cancer Survivor Study (CCSS). International Society of Paediatric Oncology-American Society of Pediatric Hematology-Oncology meeting, 1999, poster presentation.

**A9906** Green DM, Whitton J, Stovall M, Mertens A, Ruymann F, Pendergrass T, Robison LL. Pregnancy outcome after treatment for cancer during childhood or adolescence: a report from the Childhood Cancer Survivor Study (CCSS). International Society of Paediatric Oncology-American Society of Pediatric Hematology-Oncology meeting, 1999, oral presentation.

## 1998

**A9801** Hammond S, Qualman S, Neglia J, Meadows A, Robison LL. Mucoepidermoid carcinoma (MEC) of the salivary gland occurring as a second malignant neoplasm (SMN) in the Childhood Cancer Survivor Study (CCSS). Society for Pediatric Pathology, 1998, oral presentation.

## 1997

**A9701** Hammond S, Qualman S, Neglia J, Meadows A, Robison LL. Assessment and validation of second neoplasms in the Childhood Cancer Survivor Study (CCSS). Society for Pediatric Pathology, 1997, oral presentation.

## CCSS Career Development Award Winners

Category	Awardee	Application Title	CCSS Working Group	Primary Mentor	Status
<b>2013</b>					
Junior Faculty	Sogol Mostoufi-Moab, MD Children's Hospital of Phil.	Overall risk of chronic endocrine disorders in adult survivors of childhood cancer	Chronic Disease	Mary Leonard	J Clin Oncol 2016
<b>2014</b>					
Junior Faculty	Philip Lupo, PhD Baylor College of Medicine	Epigenomic profiling of metabolic outcomes in childhood leukemia survivors	Genetics	Smita Bhatia	Genes Chrom Cancer 2018
Junior Faculty	Rebecca Howell, PhD UT MD Anderson Cancer Center	Radiation dose reconstruction methods for intensity modulated radiation therapy	Second Malignancies	Marilyn Stovall	Radiother Oncol 2020 and 2021
Trainee	Giselle Perez, PhD Massachusetts General Hospital	Mental healthcare service availability and utilization among childhood cancer survivors	Psychology; Cancer Control	Elyse Park	J Cancer Surviv 2018
Trainee	Melissa Schapiro, MD St. Louis Children's Hospital	Cognitive and academic difficulties in survivors of head/neck rhabdo	Psychology	Robert Hayashi	Manuscript Drafted
<b>2015</b>					
Junior Faculty	Danielle Novetsky Friedman, MD Memorial Sloan Kettering	Impact of radiation dose to the pancreas on subsequent risk of diabetes mellitus	Chronic Disease	Charles Sklar	JNCI 2019
Junior Faculty	Adam Esbenshade, MD Vanderbilt University	Using the Cumulative Illness Rating Scale to characterize the burden of chronic conditions	Chronic Disease	Kirsten Ness	Abstract Presented, Manuscript Drafted
Trainee	Douglas Fair, MD University of Utah	Health care financial burden and missed opportunities for care	Chronic Disease	Anne Kirchhoff	Cancer 2021
Trainee	Aurelie Weinstein, Georgia State University	Predictors and outcomes of personal strengths in young adult cancer survivors	Psychology	Chris Heinrich	Psychooncology 2018
International Trainee	Miranda Fidler, University of Birmingham, UK	Comparison of risks for mortality and subsequent cancers in the CCSS and BCCSS	Chronic Disease	Mike Hawkins	JNCI 2020
<b>2017</b>					
Junior Faculty	Ralph Salloum, MD, Cincinnati Children's Hospital Medical Center	Medulloblastoma and PNET outcomes across three decades of diagnosis	Chronic Disease	Maryam Fouladi; Greg Armstrong	J Clin Oncol 2018
Trainee	Stephanie Vuotto, PhD, St. Jude Children's Research Hospital	Psychological distress, neurologic morbidity and functional independence among adult survivors treated with CNS-directed therapies	Psychology	Tara Brinkman	Abstract Presented, Manuscript Drafted

Category	Awardee	Application Title	CCSS Working Group	Primary Mentor	Status
<b>2018</b>					
Junior Faculty	Nicole Alberts, PhD St. Jude Children's Research Hospital	Chronic pain in adult survivors of childhood cancer: Utilization of the CCSS mHealth platform in assessing pain and wearable technology	Psychology	Greg Armstrong	JCO Clinical Cancer Informatics 2020
Trainee	Kerri Beckett Medical College of Wisconsin	Long-term follow-up of survivors of osteosarcoma	Chronic Disease	Cindy Schwartz	Abstract Presented, Manuscript Drafted
Trainee	Kari Bjornard St. Jude Children's Research Hospital	The impact of chronic health conditions on sexual dysfunction in female childhood cancer survivors	Chronic Disease	Kiri Ness	Analysis Underway
<b>2019</b>					
Junior Faculty	Cindy Im, PhD University of Alberta	Genetic risk prediction profiles for fracture risk among childhood cancer survivors	Genetics	Yutaka Yasui	J Bone Miner Res 2021
Trainee	Suman Shrestha, MS, MSc UTMD Anderson Cancer Center	Enhancing heart model of current CCSS age-specific computational phantoms by defining cardiac substructures and dose reconstruction	Chronic Disease	Rebecca Howell	Radiother Oncol 2020 and 2021
<b>2020</b>					
Junior Faculty	Catherine Goudie, MD McGill University Health Center	Long-term cost-effectiveness of cancer predisposition syndrome identification strategies in survivors of pediatric leukemia, brain tumors or bone/soft tissue sarcomas	Genetics	Paul Nathan	Analysis Underway
Trainee	Natalie Wu, MD Fred Hutchinson Cancer Center	Development and validation of a prediction model for end-stage renal disease in childhood cancer survivors	Chronic Disease	Eric Chow	Abstract Presented, Manuscript Drafted
<b>2021</b>					
Junior Faculty	Kelly Rentscher, PhD UCLA	Psychological distress, social functioning, and phenotypic aging in adult survivors of childhood cancer	Psychology	Kiri Ness	Analysis Underway
Trainee	Christina Sharkey, PhD Children's National Hospital	The impact of physical activity and psychological distress on neurocognitive functioning over time	Psychology	Kristina Hardy	Concept Pending Approval

Category	Awardee	Application Title	CCSS Working Group	Primary Mentor	Status
<b>2022</b>					
Junior Faculty	Rusha Bhandari, MD, MS City of Hope	Health Outcomes in Older Survivors of Childhood Cancer	Chronic Disease	Kiri Ness	—
Junior Faculty	Gordon Watt, PhD Memorial Sloan Kettering	Genetic modification of chemotherapy-associated subsequent malignant neoplasms	Genetics	Jonine Bernstein	—
Trainee	Tim Ohlsen, MD Seattle Children's Hospital	Financial hardship among long-term survivors of childhood cancer	Cancer Control and Intervention	Eric Chow, Arti Desai	—

## CCSS Trainee List

Trainee/Mentee	Training Experience	Current Position	First Authored CCSS Publications and Grants
Nina Kadan-Lottick, MD, MSPH	Post-doctoral Fellowship	Associate Professor Division of Pediatric Hematology-Oncology Yale University New Haven CT	JAMA 2002 Epidemiology 2003 Blood Cancer 2006 J Clin Oncol 2008 J Natl Cancer Inst 2010 J Cancer Surviv 2022
Brad Zebrack, PhD	Post-doctoral Fellowship	Associate Professor School of Social Work University of Michigan Ann Arbor, MI	Pediatr 2002 J Clin Oncol 2004 Pediatr Blood Cancer 2007 Psychooncology 2012
Pauline Mitby, MPH	Graduate Training	Clinical Research Associate Division of Pediatric Hematology-Oncology Children's Hospital of Minnesota Minneapolis, MN	Cancer 2003
Rajaram Nagarajan, MD, MS	Post-doctoral Fellowship and Graduate Training	Associate Professor Division of Pediatric Hematology-Oncology Cincinnati Children's Hospital Cincinnati, OH	Cancer 2003 Br J Cancer 2004 J Cancer Surviv 2009 Cancer 2011
Carrie M. Brownstein, MD	Post-doctoral Fellowship	Senior Clinical Scientist and Sr. Associate Clinical Director Roche Pharmaceuticals Assistant Clinical Professor Department of Pediatric Hematology-Oncology New York-Presbyterian/Columbia New York, NY	J Clin Endocrinol Metab 2004
Lisa Kenney, MD, MPH	Post-doctoral Fellowship	Assistant Professor Department of Pediatrics Harvard Medical School Pediatric Oncology Dana-Farber Cancer Institute Boston MA	Ann Intern Med 2004
Elyse Park, PhD	Graduate Training	Associate Professor Harvard Medical School Department of Psychiatry Massachusetts General Hospital Boston MA	J Clin Oncol 2005 Prev Med, 2006 J Cancer Surviv, 2012 J Clin Oncol, 2015 JAMA Intern Med 2017 American Cancer Society Grants (2009, 2019) NIH R01 (HINT2, 2022)
Sharon Castellino, MD, MS	Graduate Training	Associate Professor Department of Pediatrics Wake Forest University Winston-Salem, NC	J Clin Oncol 2005 Blood 2011
Joanna Perkins, MD, MS	Post-doctoral Fellowship and Graduate Training	Hematology-Oncology Children's Hospital of Minnesota Minneapolis, MN	J Clin Oncol 2005 Cancer 2014
Judy Punyko, PhD	Graduate Training	State Maternal and Child Health Epidemiologist Minnesota Department of Health St Paul, MN	Pediatr Blood Cancer 2005
Wassim Chemaitilly, MD	Post-doctoral Fellowship	Assistant Member Endocrinology St. Jude Children's Research Hospital Memphis, TN	J Clin Endocrinol Metab 2006
Mylene Bassal, MD	Post-doctoral Fellowship	Assistant Member Department of Pediatrics University of Ottawa Ottawa, Canada	J Clin Oncol 2006

Trainee/Mentee	Training Experience	Current Position	First Authored CCSS Publications and Grants
Berrin Ergun-Longmire, MD	Post-doctoral Fellowship	Assistant Professor Division of Pediatric Endocrinology Robert Wood Johnson Medical School New Brunswick, NJ	J Clin Endocrinol Metab 2006
Cecile Ronckers, PhD	Post-doctoral Fellowship	Epidemiologist AMC/Emma Children's Hospital Amsterdam, Netherlands	Radiat Res 2006 Kika Foundation Grant (2018)
Tara Henderson, MD, MPH	Fellowship and Graduate Training	Assistant Professor Department of Pediatrics University of Chicago Chicago, IL	JNCI 2007 Ann Intern Med, 2012 Int J Radiat Oncol Bio Phys, 2012 J Clin Oncol 2016 Cancer 2022 NIH RO1 (two in 2020)
Eric Chow, MD, MPH	Fellowship and Graduate Training	Medical Director Pediatric Cancer Long Term Follow-up Program Seattle Children's Hospital Seattle, WA	J Pediatr 2007 Pediatr Blood Cancer 2008 Pediatr Blood Cancer 2009 Pediatr Blood Cancer 2013 J Clin Oncol 2015 Lancet Oncol 2017 J Clin Oncol 2018 Contemp Clin Trials 2019 NIH RO1 (2017, 2021)
Todd Florin, MD	Medical Student	Assistant Professor Cincinnati Children's Hospital Cincinnati, OH	CEBP 2007
Kris Ann Schultz, MD, MS	Fellowship and Graduate Training	Hematology-Oncology Children's Hospital of Minnesota Minneapolis, MN	J Clin Oncol 2007 Pediatr Blood Cancer 2014
Jenny Pang, MD, MPH	Fellowship and Graduate Training	Clinical Assistant Professor School of Public Health University of Washington Seattle, WA	Pediatr Blood Cancer 2008
Irina Dinu, PhD	Post-doctoral Fellowship	Assistant Professor Department of Public Health Sciences University of Alberta Edmonton, Alberta	Pediatr Blood Cancer 2008
Daniel Mulrooney, MD, MS	Fellowship and Graduate Training	Assistant Member St. Jude Children's Research Hospital Memphis, TN	Sleep 2008 Cancer 2008 Br Med J 2009 Br Med J 2020
Elizabeth Bluhm, MD, MPH	Post-doctoral Fellowship	Department of Internal Medicine Washington Hospital Medical Center Washington, DC	Blood 2008
Anne Lown, DrPH	Post-doctoral Fellowship	Assistant Clinical Professor Depart. of Family Health Care Nursing UCSF San Francisco, CA	Addiction 2008 Psychooncology 2013
Edward Garmey, MD	Post-doctoral Fellowship	Chief Medical Officer and Senior Vice President Cerulean Pharma Inc. Cambridge, MA	J Clin Oncol 2008
Natasha Buchanan, PhD	Post-doctoral Fellowship	Behavioral Scientist Centers for Disease Control Atlanta, GA	Cancer, 2009
Meagan Lansdale, MD	Medical Student	Assistant Professor UCSF School of Medicine San Francisco, CA	Cancer, 2009

Trainee/Mentee	Training Experience	Current Position	First Authored CCSS Publications and Grants
Caroline Laverdiere, MD	Fellowship Training	Assistant Professor Department of Pediatrics University of Montreal Montreal, QC	JNCI 2009
Christopher Janson, MD	Medical Student	Assistant Professor Children's Hospital of Montefiore Albert Einstein College of Medicine Bronx, NY	CEBP2009
Karen Wasilewski-Masker, MD, M.Sc.	Fellowship Training	Assistant Professor Department of Pediatrics Emory University School of Medicine Atlanta, GA	JNCI 2009 J Cancer Surviv, 2014
Lisa Kahalley, PhD	Post-doctoral Fellowship	Assistant Professor Baylor College of Medicine Houston, TX	Nicotine Tob Res, 2010 Pediatr Blood Cancer, 2012
Beth Kurt, MD, MS	Fellowship and Graduate Training	Pediatric Oncologist Helen DeVos Children's Hospital Grand Rapids, MI	Pediatr Blood Cancer, 2011
Timothy Best, PhD	Graduate degree (PhD)	Medical Science Liaison Ipsen Chicago, IL	Nat Med, 2011
Anne Kirchhoff, PhD, MPH	Post-doctoral Fellowship	Assistant Professor University of Utah Salt Lake City, UT	Med Care, 2010 CEBP, 2011 Cancer, 2011 Med Care, 2010 Support Care Cancer, 2013 J Natl Cancer Inst, 2015 JAMA Oncol 2018
Michele Montgomery, PhD	Graduate degree (PhD)	Assistant Professor University of Alabama Tuscaloosa, AL	J Cancer Surv 2011
Nancy Clanton, PhD	Post-doctoral training	Pediatric Neuropsychologist LeBonheur Children's Hospital Memphis, TN	Cancer 2011
Kerri Nottage, MD	Fellowship training	Assistant Member St. Jude Children' Research Hospital Memphis, TN	Blood 2011
Carmen Wilson, PhD	Post-doctoral Fellowship	Research Associate St. Jude Children' Research Hospital Memphis, TN	Cancer 2012 JNCI 2013 CEBP 2014
Houda Boukheris, MD	Post-doctoral Fellowship		Int J Radiat Oncol Biol Phys 2012
Tanya Watt, MD	Fellowship training	Assistant Professor UT Southwestern Dallas, TX	J Natl Cancer Inst, 2012
Julienne Brackett, MD	Fellowship training	Assistant Professor Texas Children's Hospital Houston, TX	Neuro Oncol 2012
Tien Huang, PhD	Post-doctoral Fellowship	Instructor University of Oklahoma Norman, OK	Pediatr Blood Cancer 2013
Lucie Turcotte, MD, MPH	Fellowship training	Assistant Professor University of Minnesota Minneapolis, MN	J Clin Oncol, 2015 JAMA 2017 J Clin Oncol, 2019 NIH K08 (2016)
Jeanne Steele, PhD	Post-doctoral Fellowship	Program Consultant Office of Health Improvement State of Minnesota	J Cancer Surviv 2013

Trainee/Mentee	Training Experience	Current Position	First Authored CCSS Publications and Grants
Casey Daniel, PhD	Graduate degree (PhD)	Research Fellow Harvard School of Public Health Boston, MA	Cancer 2015 Trials 2015
Prasad Gawade, PhD	Fellowship training	Observational Research Sr. Manager Amgen Thousand Oaks, CA	Am J Obstet Gynecol 2015
Sara Barton, MD	Assistant Professor	Assistant Professor University of Nebraska Heartland Center for Reproductive Medicine Omaha, NE	Lancet Oncol 2013
Stefan Essig, MD, PhD	Research Fellow	Research Fellow University of Bern Bern, Switzerland	Lancet Oncol 2014
Pinki Prasad, MD, MPH	Fellowship training	Assistant Professor Louisiana State University New Orleans, LA	J Clin Oncol 2015
Karen Tsui, MD	Fellowship training	Assistant Professor Starship Hospital Auckland, New Zealand	Neuro Oncol 2014
Eugene Suh, MD	Fellowship training	Assistant Professor Loyola University Chicago, IL	Lancet Oncol 2020
Giselle Perez, PhD	Post-doctoral Fellowship	Fellow Massachusetts General Hospital Boston, MA	J Cancer Surviv 2018
Melissa Schapiro, MD	Fellowship training	Assistant Professor Memorial Sloan Kettering Cancer Center New York, NY	Analysis underway
Dava Szalda, MD	Fellowship training	Fellow Children's Hospital of Philadelphia Philadelphia, PA	Analysis underway
Elizabeth Feijen	Graduate Training	Graduate Student Academic Medical Center Amsterdam, The Netherlands	J Clin Oncol, 2015 JAMA Onc 2019
Huiru Dong, MSc	Graduate Training	Graduate Student University of Alberta Edmonton, Alberta, Canada	Am J Epidemiol 2015
Kelly Kenzik, PhD	Graduate Training	Post-doctoral Fellow University of Alabama Birmingham, Alabama	Neuropsychology 2014
Douglas Fair, MD	Fellowship Training	Fellow University of Utah Salt Lake City, UT	Cancer 2021
Aurelie Weinstein	Graduate Training	Graduate Student Georgia State University Smyrna, GA	Psycho-Oncology 2018
Miranda Fidler	Graduate Training	Graduate Student University of Birmingham Birmingham, UK	J Natl Cancer Inst 2020
Arin Madenci, MD	Fellowship Training	Fellow, Pediatric Surgery Boston Children's Hospital Boston, MA	J Clin Oncol 2015 J Clin Oncol 2018 Cancer 2019
Karen Effinger, MD	Fellowship Training	Assistant Professor Children's Hospital of Atlanta Atlanta, GA	Eur J Cancer 2018 ASCO Young Investigator Award (2014)
Ryan Nipp, MD	Fellowship Training	Fellow Mass General Hospital Boston, MA	J Clin Oncol 2018

Trainee/Mentee	Training Experience	Current Position	First Authored CCSS Publications and Grants
Stephanie Vuotto, PhD	Post-doctoral Fellowship	Assistant Professor College of Mount Saint Vincent New York, NY	Cancer 2016
Austin Brown, PhD	Graduate Training	Post-doctoral Fellow Baylor College of Medicine Houston, TX	Analysis underway
Peter Asdhal, MD	Graduate Training	Graduate student Aarhus University Aarhus, Denmark	Pediatr Blood Cancer 2021
Daniel Zheng	Medical Student	Medical Student Yale University New Haven, CT	Cancer 2018
Laura Daniel, PhD	Post-doctoral Fellowship	Instructor Children's Hospital of Philadelphia Philadelphia, PA	Psycho-Oncology 2019
Yin Ting Cheung, PhD	Post-doctoral Fellowship	Post-doctoral Fellow St. Jude Children's Research Hospital Memphis, TN	J Natl Cancer Inst 2018 JNCI Cancer Spect 2020
James Bates, MD	Fellowship Training	Fellow, Radiation Oncology University of Florida Gainesville, FL	J Clin Oncol 2019
Matt Ehrhardt, MD	Fellowship Training	Assistant Member St. Jude Children's Research Hospital Memphis, TN	J Clin Oncol 2019 J Clin Oncol 2020
Kristen Stefanski	Fellowship Training	Fellow Cincinnati Children's Hospital Cincinnati, OH	J Natl Cancer Inst 2020
Stephanie Dixon	Fellowship Training	Fellow St. Jude Children's Research Hospital Memphis, TN	Cancer 2019 J Clin Oncol 2020
Kerri Beckett	Fellowship Training	Fellow Medical College of Wisconsin Milwaukee, WI	Analysis underway
Kari Bjornard	Fellowship Training	Fellow St. Jude Children's Research Hospital Memphis, TN	Analysis underway
Valerie Arsenault	Fellowship Training	Fellow Hospital for Sick Kids Toronto, ON	Analysis underway
Caleb Nannes	Fellowship Training	Fellow Duke University Durham, NC	Analysis underway
Nisha Rathore	Fellowship Training	Fellow Texas Children's Hospital Houston, TX	Analysis underway
Ameera Fayad	Graduate Training	Student University of Buffalo Buffalo, NY	Analysis underway
Samah Hayek	Post-doctoral Fellowship	Fellow St. Jude Children's Research Hospital Memphis, TN	JCO 2020
Bryan Dieffenbach	Fellowship Training	Fellow Brigham and Women's Hospital Boston, MA	Eur J Cancer 2020 Eur J Cancer 2021
Suman Shrestha	Graduate Training	Student UT Health Graduate School Houston, TX	Radiother Oncol, 2020 Radiother Oncol, 2021

Trainee/Mentee	Training Experience	Current Position	First Authored CCSS Publications and Grants
Monica E. Reyes	Post-doctoral Fellowship	Fellow UT MD Anderson Houston, TX	Analysis underway
Rozalyn Rodwin	Fellowship Training	Fellow Yale University New Haven, CT	Cancer Epidemiol Biomarkers Prev, 2021
Taumoha Ghosh	Fellowship Training	Fellow University of Minnesota Minneapolis, MN	Cancer Epidemiol Biomarkers Prev, 2021
Natalie Wu	Fellowship Training	Fellow Fred Hutchison Cancer Center Seattle, WA	Analysis underway
Matthew Trendowski	Medical Student	Student University of Chicago Chicago, IL	Cancer 2021
Amy Wang	Fellowship Training	Fellow University of Chicago Chicago, IL	Analysis underway
Vincent Pluimakers	Medical Student	Graduate Student Princess Maxima Medical Center Utrecht, The Netherlands	Analysis underway
Eric Geiger	Fellowship Training	Fellow Univ. of California San Francisco San Francisco, CA	Manuscript Submitted
Ingrid Tonnig Olsson	Post-doctoral Fellowship	Post-doctoral Fellow St. Jude Children's Research Hospital Memphis, TN	Abstract Submitted
AnnaLynn Williams	Post-doctoral Fellowship	Post-doctoral Fellow St. Jude Children's Research Hospital Memphis, TN	Blood 2021
Ajay Major	Fellowship Training	Fellow University of Chicago Chicago, IL	Analysis underway
Lin Yu	Student	Student University of Alberta Edmonton, Canada	Analysis underway

As of April 2022

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## Appendix

### Sample LTFU Participant Newsletters

**LTFU**

Long-Term Follow-Up Study

Winter 2022

# Update

## LTFU Study siblings

While cancer research usually focuses on the patient, a cancer diagnosis affects the entire family. This is especially true for siblings.

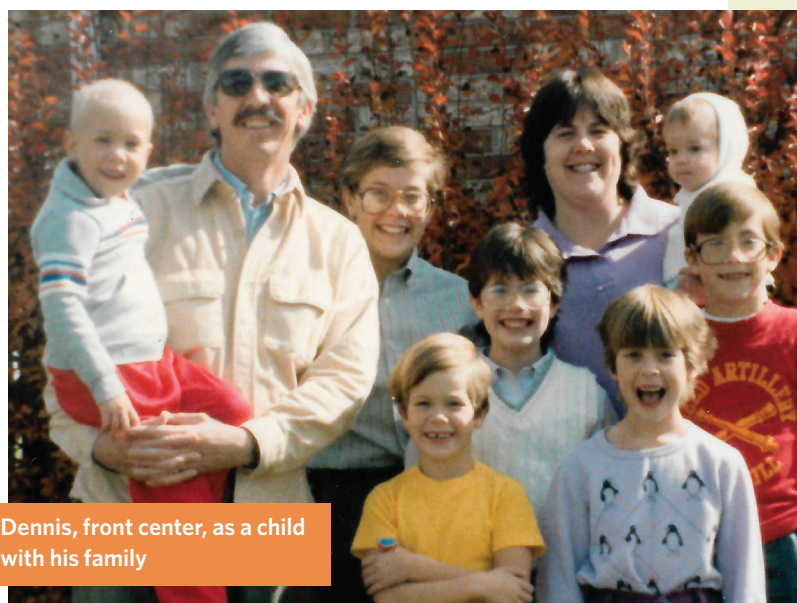
Having a sibling treated for cancer during childhood is stressful. Family and school routines can change when parents must focus time and attention on the child with cancer. Parents' ability to work may also be affected, resulting in further hardships for some families. This upheaval may cause a range of emotions in siblings, such as worry, sadness, guilt, and even anger.

But how are siblings doing many years after this experience? Do these feelings persist? And how do they affect siblings' health? We asked LTFU Study siblings to share their experiences.

### The siblings

**Jack.** Jack was in the fourth grade when his sister was diagnosed with cancer in 1975. His parents traveled from northeastern Massachusetts to Boston for his sister's treatment. "I remember getting bounced around a lot when my parents were at the hospital, going to neighbors or relatives," he says. "It was difficult at times. Childhood cancer is a completely different ballgame now—my sister is one of the first ones who lived."

**Dennis.** Dennis' brother was diagnosed with cancer in 1985 at four years old; Dennis was five and the fifth of seven siblings.



Dennis, front center, as a child with his family

They lived in Wyoming, which lacked a pediatric cancer treatment center, so his mom took his brother to Denver for treatment. "She would spend months there; sometimes we went, other times our grandmother came out to support us," Dennis says. "Then when my brother was five, he had a stroke that left him with severe permanent disabilities. He and I were really close, so in a way, I lost my best friend."

**Kelly.** Kelly's sister had cancer in 1977 when Kelly was three and her sister five, and she had a relapse in 1984. Kelly remembers her friend's mother telling her that her sister was in the hospital. "Those moments you never forget—coming off the bus happy, laughing with my best friend, happy to see my friend's mom, and then the crushing feeling. I remember the exact spot in the yard where I was told."

[continued on page 2](#)

### A NOTE FROM US

Your health information is influencing childhood cancer survivorship care around the world! The LTFU Study's annual Investigator Meeting was held virtually in June 2021 because of COVID-19. While I missed seeing colleagues in person, it provided the opportunity for 600 researchers from 167 hospitals in 35 countries to attend and learn about the latest advances in survivorship care after childhood cancer.

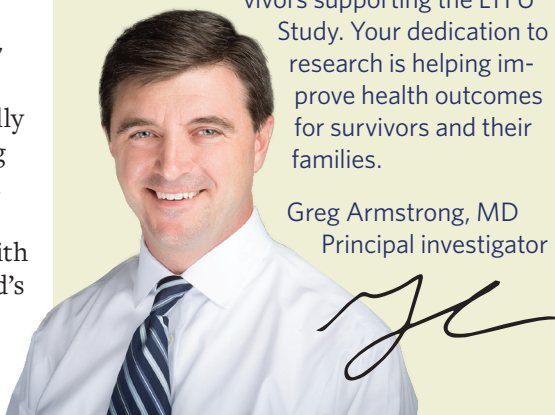
These advances are based on data you have provided. Thank you for completing the most recent survey during the last two years.

**Beginning in 2022, you will receive the next LTFU Study survey.** It will be a little shorter than the previous survey and, for the first time, will ask about your experiences accessing health care, the quality of the care you receive, and the impact of the cost of your care. Look for your survey soon!

**This issue of the LTFU Update** focuses on siblings of childhood cancer survivors. Siblings in the study share their experiences, reminding us that childhood cancer can have lasting effects on the whole family. You'll also learn about LTFU research on sibling health and find resources that support families that are affected by childhood cancer.

Thank you to all of the siblings and survivors supporting the LTFU Study. Your dedication to research is helping improve health outcomes for survivors and their families.

Greg Armstrong, MD  
Principal investigator



# LTFU Study siblings

continued from page 1

The relapse brought Kelly a lifetime of worry: “I was always protective of her, always scared what was coming next. The relapse being 7 years later—you don’t see it coming. We constantly lived in fear of the follow-up checks, the imaging tests, the bloodwork, if my sister had any symptom—‘Uh-oh, is this it?’”

## Family effects

Cancer affected the siblings’ families in varied ways. While Kelly was the middle child, she took on the older caretaker role. “My sister had to wear a wig to school and got made fun of. I remember taking it upon myself at 10 to physically punish a boy teasing her on the playground,” says Kelly. “Did my worry for her ever stop? No. It’s become ingrained



Kelly, right, with her siblings

in my personality—I went into healthcare.” In spite of her worries, though, Kelly remembers her childhood as amazing: “I look back, and I was so fortunate. We are an incredibly close family. My parents were great parents, but I believe going through what we did also makes a difference.”

While cancer can pull a family together, it can also create divisions. As Dennis shares, “My parents got divorced in 1986—with the cancer, the long-distance treatment, seven kids, my brother’s new disability, the pressures that come with an upended existence... it didn’t work out. Cancer didn’t cause my parents’ divorce, but the stresses associated with cancer likely exposed and hardened the unmendable cracks. Our family dynamic was drastically altered by cancer and its reverberations.”

## Health effects

In addition to effects on family dynamics, a sibling’s cancer diagnosis can also impact their sibling’s health. A recent study by Dr. David Buchbinder from the Children’s

Hospital of Orange County looked at how the concerns of siblings in the LTFU Study changed over time. About two-thirds of siblings reported having concerns about their future health and cancer risk on their first survey, but these concerns decreased as they grew older.

The number of siblings reporting concerns also differed by the year their sibling was diagnosed. Among siblings of survivors diagnosed in the 1970s, almost three of four siblings had concerns about their future health and risk for cancer. The number reporting concerns decreased to about one in two for siblings of survivors diagnosed in the 1990s—likely related to improvements in cancer treatments.

Understandably, siblings with a brother or sister who received intensive therapy or experienced serious health problems related more health concerns. “Health problems in the cancer survivor may lead the sibling to worry about the survivor’s well-being and create ongoing sibling concerns,” says Dr. Buchbinder. “It is important to ensure that siblings have support to cope and manage stress relating to their own personal health.”

## Increasing support

The importance of early sibling and family support has spurred the creation of programs that provide services after a cancer diagnosis.

Many pediatric cancer centers offer programs for cancer patients and siblings. Alex’s Lemonade Stand Foundation, a Pennsylvania-based nonprofit, has a SuperSibs program that is dedicated to comforting, encouraging, and empowering siblings during their family’s battle against childhood cancer.

Our LTFU Study participants’ reflections also emphasize the need for parent and caregiver support programs. A variety of organizations offer online resources to support families, for example:

- National Cancer Institute ([www.cancer.gov/about-cancer/coping/caregiver-support/parents](http://www.cancer.gov/about-cancer/coping/caregiver-support/parents))
- American Childhood Cancer Organization ([www.acco.org/24-hour-online-support/](http://www.acco.org/24-hour-online-support/))
- St. Jude Children’s Research Hospital ([together.stjude.org/en-us/for-families/parents/support-networks.html](http://together.stjude.org/en-us/for-families/parents/support-networks.html))

Today, more than ever, there is greater appreciation for the need to support families affected by cancer. Thank you to our sibling participants in the LTFU Study who have shared memories of their cancer experience and continue as partners in research to increase understanding about the long-term effects on childhood cancer patients and their families.



Citation: “Health-related and cancer risk concerns among siblings of childhood cancer survivors: a report from the Childhood Cancer Survivor Study (CCSS).” *Journal of Cancer Survivorship*, May 2021.

# Perspectives from psychology research:

## Cancer and families

“The dynamics in the family change quite a bit when a child is diagnosed with cancer,” says Rachel Tillery, PhD, pediatric psychologist.



“Primary caregivers spend a lot more time with the sick child, and that’s really difficult for the sibling. If they don’t know what’s happening, it can create uncertainty.” She says that even with a good prognosis, with limited information, siblings may imagine

the worst-case scenario. This may explain why some siblings have higher anxiety compared to peers without a sibling with cancer.

But sibling research also shows resilience. “It’s a struggle in the beginning when uncertainty is high, but once everyone starts to understand what the diagnosis means and what the treatment trajectory will be, most families return to their baseline,” says Dr. Tillery. “We see minimal impact on siblings’ social functioning and sometimes even see ‘post-traumatic growth’—growing from this difficult experience. We also see that siblings can be more mature than their peers. So it’s a mixture of difficulties and distress, but also positive growth from the cancer experience, and resilience.”

### Long-term effects

Research on long-term effects of cancer on families is limited. Dr. Tillery reports, “Even though siblings and families exhibit resilience, there are still unmet needs, and we need to explore those needs. From our research on the challenges of transitioning off treatment, 60-65% of caregivers talked about siblings’ distress and not having had adequate psychological care for them during this time.”

For Dr. David Buchbinder, volunteering at the SIBS (Special and Important Brothers and Sisters) session at Camp Okizu during medical school led to a long-standing interest in understanding the psychosocial impact of cancer on families.

Dr. Buchbinder, a pediatric hematologist-oncologist at the Children’s Hospital of Orange County, acknowledges that despite the best intentions of pediatric cancer care teams, time and resources are often limited to address the needs of siblings of cancer patients.

### LTFU Study siblings

Siblings participating in the LTFU study have been important partners in Dr. Buchbinder’s research that has helped us understand how the family cancer experience affects sibling health behaviors and health concerns. “The LTFU sibling cohort represents an amazing voice in survivorship research,” says Dr. Buchbinder. “Our studies have shown that siblings are generally doing well, which reflects their incredible strength and courage. But we need to be mindful that we may underestimate the struggles that some siblings face, even many years after a sibling had cancer.”

### Addressing sibling needs

Addressing sibling needs is a passion Dr. Buchbinder shares with members of Sibling Partnership for Advocacy, Research, and Care in Childhood Cancer (SPARCCC), a collaboration involving the pediatric cancer community. SPARCCC has highlighted the importance of anticipating and meeting siblings’ needs. Despite having a published standard of psychosocial care for children with cancer and their families, this standard is often not met in day-to-day care of siblings. As a result, SPARCCC recently teamed up with Mattie Miracle Cancer Foundation to focus on overcoming barriers to meeting the supportive care needs of siblings.



## Helping with the impact of cancer on families

According to Dr. Tillery, research suggests ways to help families experiencing cancer:

- Give siblings opportunities to process this experience with someone
- Provide appropriate medical information to siblings throughout the cancer experience that’s understandable and age appropriate to help with their coping and adjustment
- Consider family therapy, especially as you’re trying to go back to a new normal and establish new routines
- Help siblings rebuild their relationships with their parents and sibling with cancer, remembering that sometimes we need outside support to help that happen
- Help children learn to identify their emotions

## A NOTE FROM US

As 2021 begins with the roll out of an effective vaccine against COVID-19, we can finally see a glimmer of light at the end of the tunnel. The pandemic has impacted our lives, work, relationships, and mental health. As a childhood cancer survivor, you may have been challenged by worries about becoming sick, difficulties in seeing health care providers, and isolation from your usual support systems.

During this stressful period, completing your LTFU survey may not feel like a pressing priority. But your survey response, amidst a global health crisis, is critically important to help us learn how the pandemic is affecting the health and wellbeing of childhood cancer survivors.

The information you provide will advance clinicians' and researchers' understanding of the pandemic's effect on all aspects of your health, including your physical, emotional, and social wellbeing.

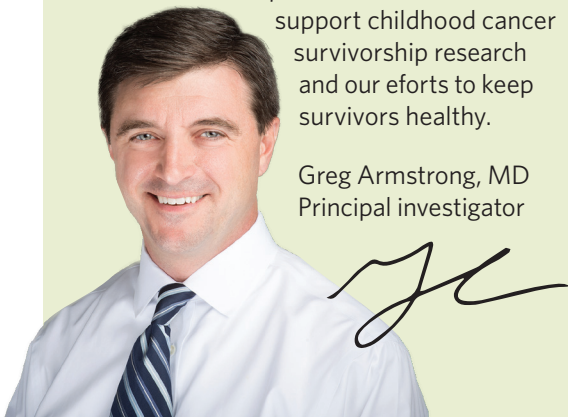
This is a unique opportunity to "give back" to the survivorship community and help others at a time when we have all, at times, felt helpless.

Please complete your survey, if you have not done so. If you didn't receive the survey or need another copy, please contact us at 1-800-775-2167 or [ltfu@stjude.org](mailto:ltfu@stjude.org).

For those of you who have already completed it, know that we are grateful. Your responses will continue to

support childhood cancer survivorship research and our efforts to keep survivors healthy.

Greg Armstrong, MD  
Principal investigator



## RESEARCH RESULTS

## Pain and survivorship

Nearly one-third of LTFU Study participants reported moderate to severe pain more than 10 years after completing treatment. For many, pain significantly affects their daily life.

Pain is a serious medical concern that can affect relationships, work, and everyday experiences. Many options are available to help manage pain, but often survivors are not aware of them. "We conducted this study because, up until now, we lacked data on pain among survivors," says Cynthia W. Karlson, PhD, University of Mississippi Medical Center, who led the research team.

Comparing responses from 10,012 survivors and 3,173 of their siblings from the 2002 and 2007 LTFU Study surveys, researchers found that more than 10 years after treatment:

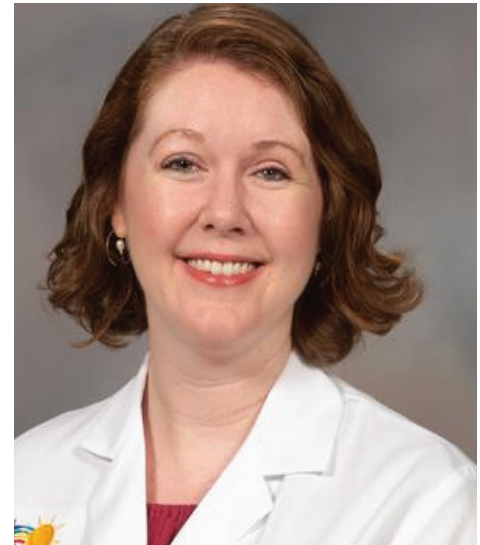
- 29% of survivors reported moderate to severe pain
- 20% of survivors reported that pain significantly interferes with their daily activities

The study also identified factors that were associated with pain in daily life, such as:

- Demographic: Female sex, minority race/ethnicity, older age at diagnosis
- Cancer-related: Sarcomas/bone tumors, platinum-based chemotherapy, amputation surgery
- Medical: Chronic conditions
- Psychological: Depression, anxiety, fatigue

## Predictors of pain

"Although some of these predictors, like a survivor's sex or cancer diagnosis, can't be changed, the study highlights lifestyle factors that are very effective for reducing and managing pain," Dr. Karlson says. "We can manage pain by decreasing stress and anxiety, and getting good sleep. When we're more stressed or not sleeping well, our pain is worse."



"This is the first longitudinal study of pain among childhood cancer survivors. Thanks to the LTFU Study, researchers can keep moving the field forward."

Cynthia Karlson, PhD, is a pediatric psychologist at University of Mississippi and a childhood cancer survivor.

# LTFU Study: Year in review

2020 will be remembered as the year in which the world grappled with a new health crisis—the COVID-19 pandemic. But thanks to the dedication of LTFU Study participants, we have continued to make important contributions to what is known about survivorship and health.

## Advancing the science

In 2020, the LTFU Study published 33 new studies and presented 20 abstracts at virtual scientific conferences.

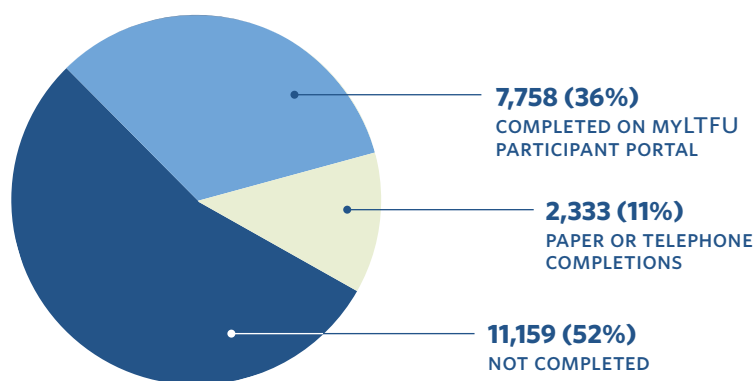
**DID YOU KNOW?** Survivors and their siblings have contributed to a total of 387 publications since the LTFU Study launched in 1996. Search them by topic on the LTFU Study website (in the Resources section): [ltfu.stjude.org](http://ltfu.stjude.org)

## LTFU Study Follow-up Survey

We began rolling out the most recent follow-up survey in August 2019 with an initial focus on the myLTFU portal. Mailing print versions was delayed because of COVID-19, but is currently underway.

As of December 30, 2020 the response rate for the current survey was 48%. Here's the breakdown:

### SURVEY RESPONSE (TOTAL OF 21,546 PARTICIPANTS)

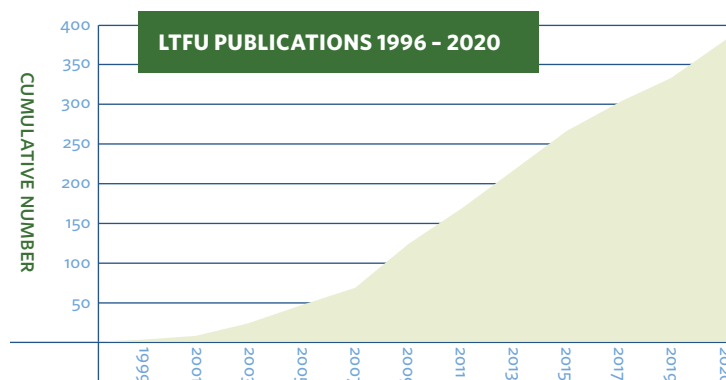


**We need to hear from everyone.** That's why the 13 staff working in our Coordinating Center and 14 Survey Interviewers make such an effort to follow up with every participant if we don't receive their completed survey.

Here's how often we many times we reached out to participants in 2020:

- 29,146 phone calls
- 216,953 emails
- 36,011 text messages

**DID YOU KNOW?** If you haven't completed your survey, it's not too late. Please contact us and let us know how we can help: Email: [ltfu@stjude.org](mailto:ltfu@stjude.org) Phone: 1-800-775-2167



## First myLTFU study completed

We recently completed the first study conducted through the myLTFU portal. In the study, titled "Symptom Assessment and Management using mHealth (SAM)," more than 40 participants used the portal to rate the presence and severity of 20 symptoms and their quality of life.

At the end of the study, the participants, who completed 90% of their reports (which is considered excellent!), reported that it was easy to provide data using the portal. What we learned will help us further integrate myLTFU in survivorship research.

**myLTFU**

**DID YOU KNOW?** If you have not yet activated your myLTFU portal, it's easy to do. Start here ([ltfu.stjude.org/myltfu](http://ltfu.stjude.org/myltfu)) and complete a few brief steps.

## Participant Advisory Council (PAC)

Last year we put out the call to participants: "We need your input!" and 121 people volunteered to be part of a new Participant Advisory Council. In 2020, PAC volunteers:

- Provided feedback on how to enhance the study experience
- Helped test the myLTFU participant portal before we launched it with the whole cohort
- Contributed to the design of a colorectal cancer screening study and creation of educational materials for a new genetic counseling study

**DID YOU KNOW?** We still welcome new PAC members. There's no time commitment. To join, email us at [ltfu@stjude.org](mailto:ltfu@stjude.org).

# Pain and survivorship continued from page 1

## Implications for survivors

The study is important because it confirms that many adult survivors are affected by moderate to severe pain more than 10 years after their diagnosis. Screening for pain among survivors can help address it.

“Survivors who experience pain after treatment should talk to their medical providers about treatments that we know are effective,” says Dr. Karlson. “These options include both medical and lifestyle approaches, like physical therapy, relaxation training, and cognitive-behavioral pain management.

## Shout-out to survivors and their siblings

Dr. Karlson is a survivor of childhood cancer. She didn’t originally plan on cancer becoming the focus of her career, however. “I started in rheumatology,” she says, “Then I fell into cancer during internship. My personal experience makes me passionate about trying to improve evidence-based care and provide the highest quality support to survivors.

“As a researcher, I am deeply grateful to everyone who is part of the LTFU Study. Because you take the

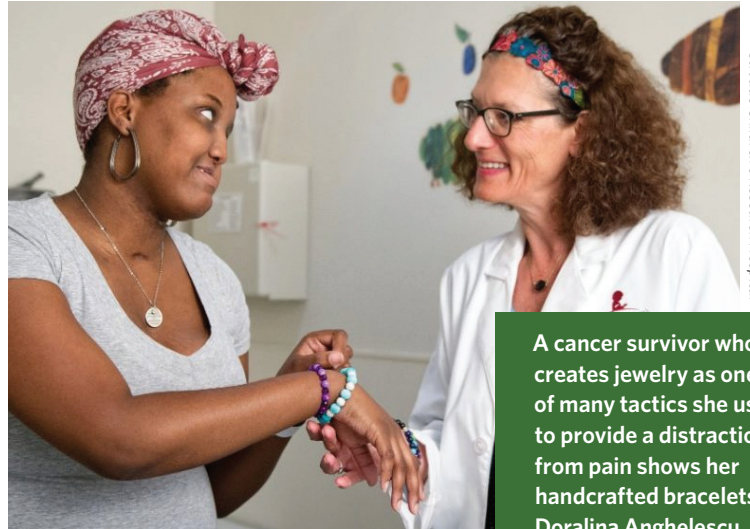


Photo courtesy  
St. Jude Children's Research Hospital

A cancer survivor who creates jewelry as one of many tactics she uses to provide a distraction from pain shows her handcrafted bracelets to Doralina Anghelescu, MD.

time to answer all those questions, year after year, we can keep moving the survivorship field forward.”

Cancer

Citation: “Longitudinal Pain and Pain Interference in Long-Term Survivors of Childhood Cancer: A Report from the Childhood Cancer Survivor Study.” *Cancer*, June 2020.

## Understanding pain and ways to address it

The brain plays an important role in our experience of pain, and is key to helping us manage it. Signals from the source of pain travel along pathways in the nervous system to the brain. If those signals send the message, “Yikes, that’s hot and it hurts!” we are prompted to move our hand away from the stove.

Pain signals then make a return trip from the brain to the original source. Pain management strategies can affect the signals in either direction and ease the pain.

Pain is not just physical—it has psychological and social components that can increase or reduce the way we experience pain. Managing pain requires an approach called “biopsychosocial” because it includes all of these areas.

## “Biopsychosocial”: Breaking it down

“The biopsychosocial model looks at pain holistically and considers each person’s medical, emotional, and social situation,” says Doralina Anghelescu, MD, who directs the Pain Management Service at St. Jude Children’s Research Hospital.

Biological factors that cause pain include nerves, bones, and scarring. “Sometimes medications like acetaminophen or anti-inflammatories can help,” Dr. Anghelescu says, “But I always prefer to encourage non-medical approaches—physical therapy, yoga, stretching, swimming, or any comfortable and enjoyable physical activity.”

Psychological approaches, particularly cognitive-behavioral therapy (CBT), can help patients “reframe” pain and focus on their abilities rather than their limitations. Meditation and deep breathing exercises can promote relaxation and lower stress.

Social factors can affect how we feel pain by promoting a positive or negative mental attitude. “Supportive, reassuring relationships help us feel good about ourselves,” says Dr. Anghelescu. “On the other hand, if the people around us are anxious or overly focused on our pain, that can make the pain feel worse or prevent us from doing things that help pain improve.”

## You don’t need to put up with pain

This study confirms that pain is common among childhood cancer survivors, who may not realize that they don’t need to accept it as part of their lives. Survivors experiencing pain are encouraged to explore available options with their primary care providers, who can help them find solutions.

## Resources

**For survivors:** Chronic Pain after Childhood Cancer Health Link (Children’s Oncology Group): [bit.ly/3ocA7oj](https://bit.ly/3ocA7oj)

**Understanding pain (How Stuff Works):** [bit.ly/3dM6obo](https://bit.ly/3dM6obo)

**For health care providers:** Guidelines for Survivors of Childhood, Adolescent and Young Adult Cancers (Children’s Oncology Group): [www.survivorshipguidelines.org](https://www.survivorshipguidelines.org)