

Childhood Cancer Survivor Study (U24 CA55727)

2012 Investigator Meeting

Wednesday

Standing Reports

Research Presentations

CCSS 101

Reception

Thursday

International Cohorts

Working Group Reports

Break-out Lunch Sessions

Objective: To provide investigators, who are unfamiliar with the workings of CCSS, an overview of the opportunities for research and mechanisms to access the CCSS resource.

Organizer: Eric Chow

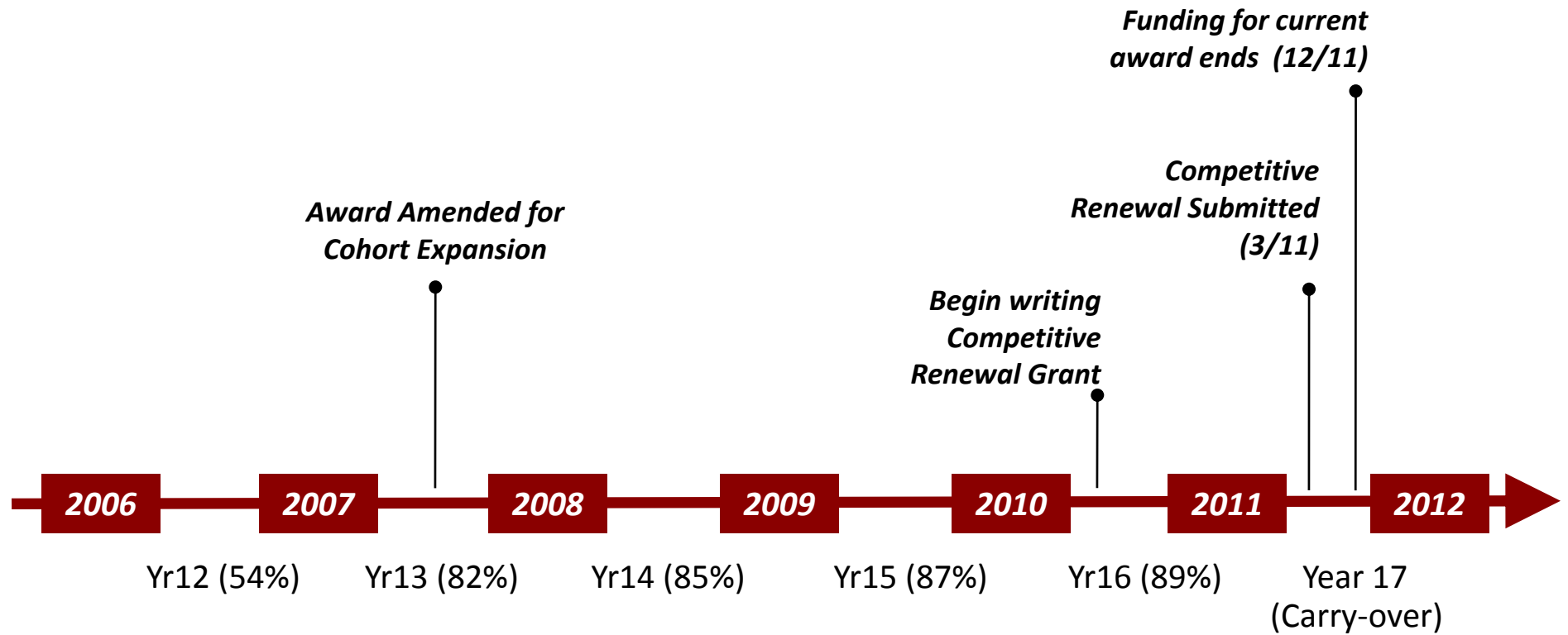
Research Presentations

PRESENTER	TOPIC
Ann Mertens	BCC and Radiation Exposure
Tara Henderson	Secondary Colorectal Carcinoma
Greg Armstrong	Cardiovascular Risk Factor Analysis
Elyse Park	Update on Insurance Study

Cohort Presentations

PRESENTER	TOPIC
Mike Hawkins	British CCSS
Mary McBride	Vancouver CAYACS
Leontien Kremer	Dutch LATER
Jeanette Winther	Danish ALICCS
Lars Hjorth	PanCareSurFup

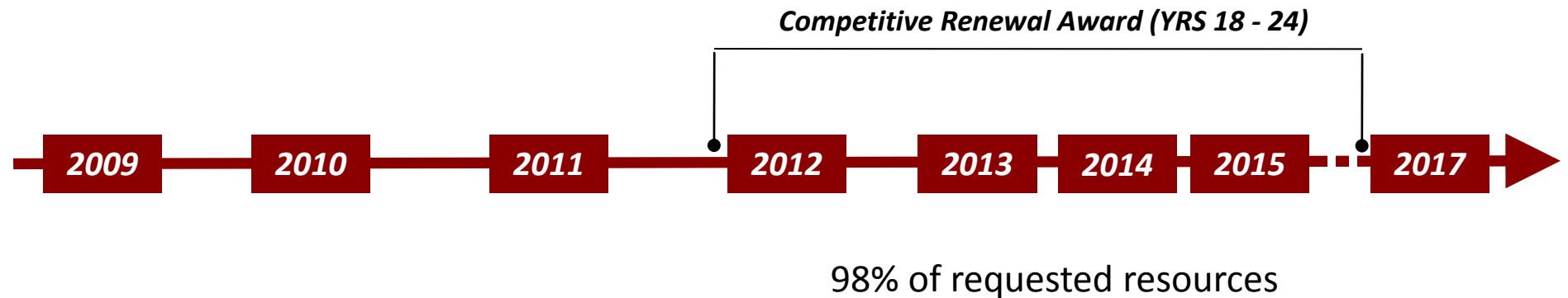
Funding



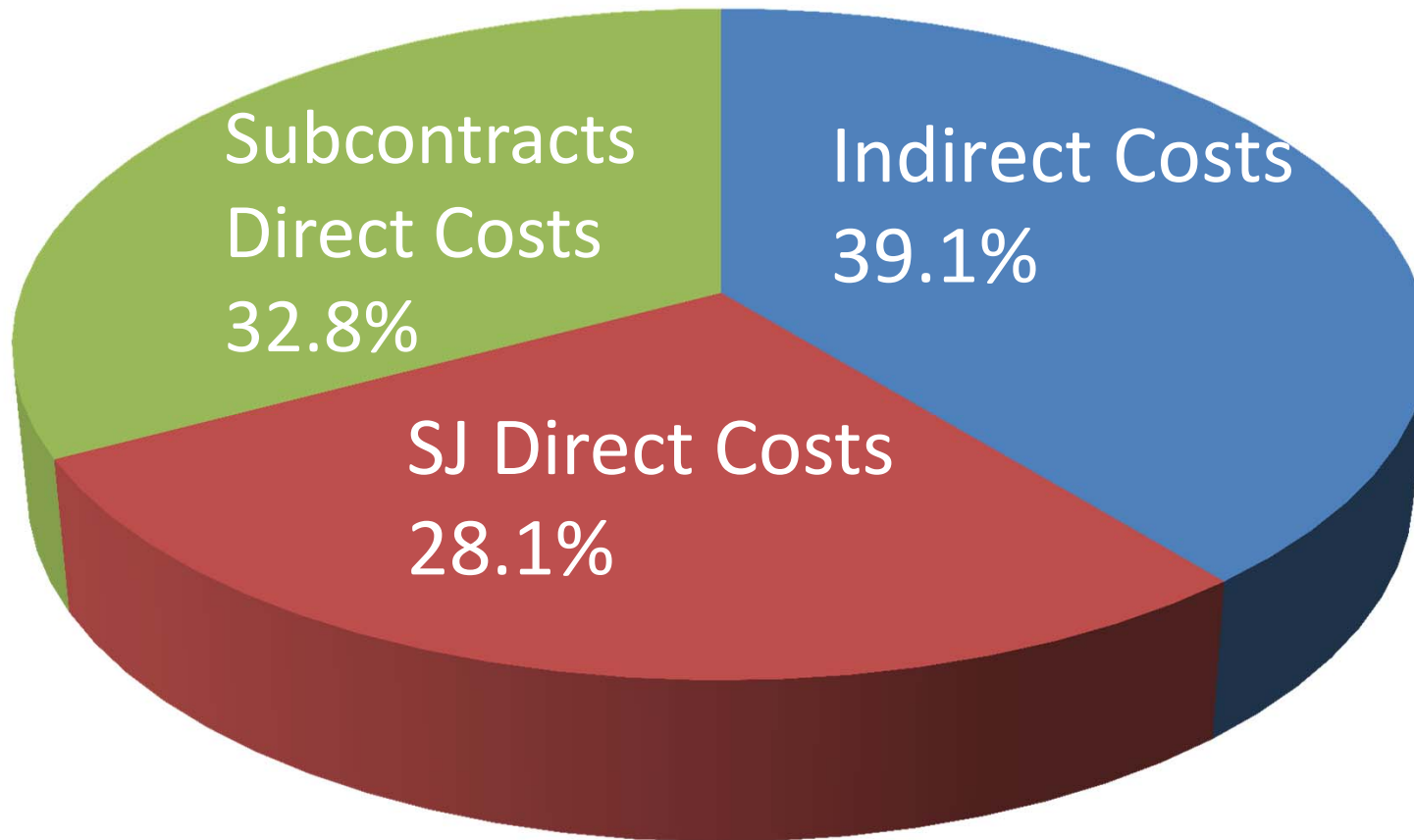
Maintain CCSS as a strong and productive resource

Enhance the CCSS Resource

Promote and facilitate continued use of the CCSS Resource



\$21.1 Million Total Costs
Years 18-22 (Dec. 2011 – Nov. 2016)



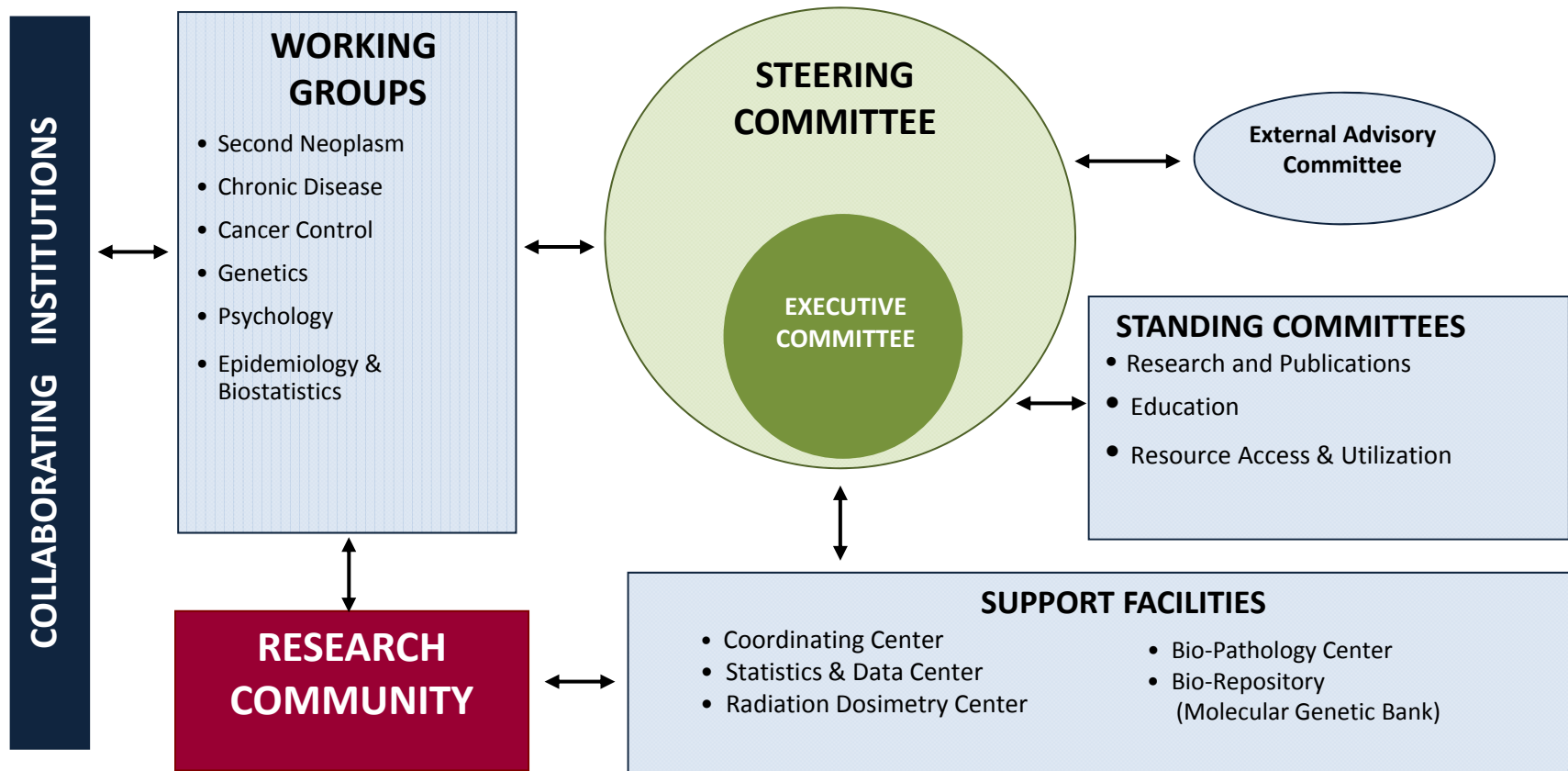
University of Chicago (Tara Henderson)

Northwestern University (Kimberly Dilley)

Children's Hospital, Orange County (Leonard Sender)

Cook Children's, Fort Worth (Paul Bowman)

Organizational Structure



Executive and Steering Committees

L. Robison
M. Hudson
G. Armstrong

J. Neglia
C. Sklar
K. Oeffinger
S. Bhatia
K. Krull
W. Leisenring
A. Mertens

D. Green

M. Stovall
S. Davies
S. Hammond
J. Boice

E. Chow
D. Deapen
L. Diller
S. Donaldson
P. Inskip
J. Mulvihill

P. Nathan
K. Ness

R. Packer
J. Rowland
N. Seibel
L. Strong
R. Wu
Y. Yasui
L. Zeltzer

Melissa Bondy (Baylor) Epidemiology

Susan Cohn (University of Chicago) Pediatric Oncology

Steven Hancock (Stanford) Radiation Oncology

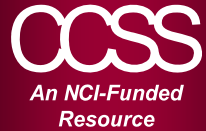
David Hodgson (Univ. of Toronto) Radiation Oncology

Daniel Sargent (Mayo Clinic) Biostatistics

Thomas Seller (Moffitt) Genetic Epidemiology

Flora van Leeuwen (Netherlands Cancer Inst) Epidemiology

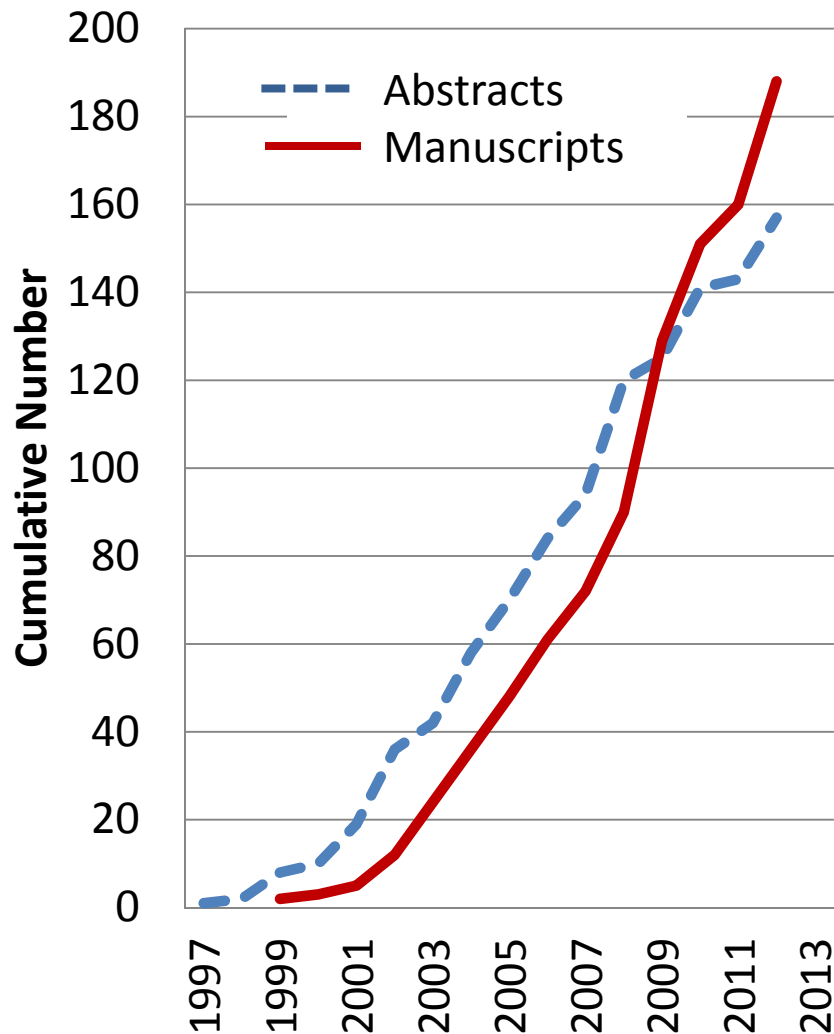
Susan Weiner (Children's Cause for Cancer) Advocate



Scope of Published Research

Alcohol Use
Cardiac Outcomes
Chronic Health Conditions
Complementary/Alternative Rx
Dental
Diabetes
Education/Employment
Endocrine
General Survivorship
Genetics/Family History
Gonadal Function/Pregnancy
Growth Hormone
Health Status
Healthcare Utilization/Screening
Insurance

Marriage
Mortality
Neurologic/Neurosensory
Osteonecrosis
Physical Function
Psychology
Pulmonary
Quality of Life
Second Neoplasms
Sleep/Fatigue
Smoking
Stroke
Survivorship Methodology
Thyroid
Weight/Body Mass Index



Continued Strong Record of High Impact Publications

- 188 Published and In Press
- One third in journals with impact factor >10
- 2011 to date: 38 Published and In Press
- 7200+ citations in the literature

Increased risk of second neoplasms among survivors treated with growth

hormone (Sklar et al, *JCEM*, 2002 and Ergun-Longmire et al, *JCEM*, 2006). The initial report and FDA-requested follow-up report from CCSS resulted in modifications to the package inserts for recombinant growth hormone.

Increased risk and high cumulative incidence of chronic health conditions

among adult survivors of childhood cancer (Oeffinger, et al, *NEJM*, 2006). This report documented for the first time the magnitude and severity of chronic health conditions within the first three decades following treatment. This was a plenary session presentation at the 2005 meeting of the American Society of Clinical Oncology and was identified by ASCO as one of the major advances in cancer treatment, prevention and screening in 2005.

Magnitude of risk and screening practices for radiation-associated breast

cancer among survivors (Kenney et al, *Ann Int Med*, 2004; Inskip et al, *JCO*, 2009; and Oeffinger et al, *JAMA*, 2009). In a series of CCSS publications, the known association between chest RT and risk of breast cancer was markedly clarified in terms of cumulative incidence documenting that this is one of the highest known risk populations for development of breast cancer; for the first time provided dose-risk models, and for the first time documented the current breast screening practices of this high-risk population.

Excess in cause-specific late mortality among five-year survivors of childhood

cancer (Mertens et al, *JCO*, 2001; Mertens et al, *JNCI*, 2008, Castellino et al, *Blood*, 2011). The initial and follow-up reports from CCSS were the first to document the magnitude of excess for cause specific late mortality and the increasingly high rate among survivors of Hodgkin lymphoma. These reports demonstrated the increasing and excess rate of late mortality attributed to cardiac and pulmonary causes among exposed childhood cancer patients.

Long-term excess risk of congestive heart failure among survivors of childhood cancer exposed to cardio-toxic therapy (*Mulrooney et al, BMJ, 2009*). Assessment of the CCSS cohort documented the continually increasing excess risk of late-occurring congestive heart failure among patients exposed to anthracyclines and/or cardiac radiation. This paper was cited by ASCO as one of the major advances in cancer treatment, prevention and screening in 2008 (abstract) and 2010 (manuscript).

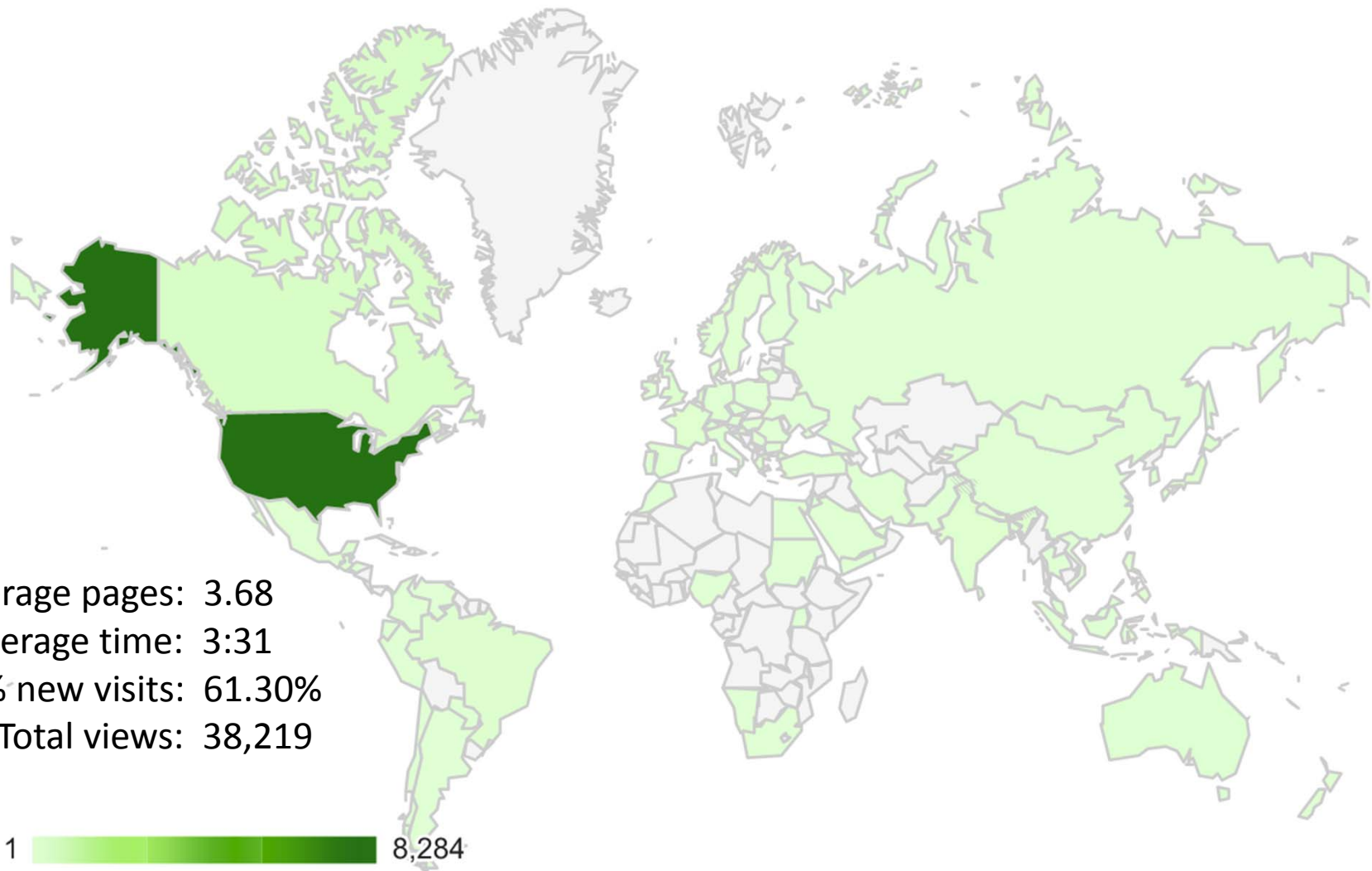
Increased risk of late-occurring stroke among long-term survivors exposed to CNS radiation (*Bowers et al, JCO, 2006*). This manuscript reported on high risk of stroke in survivors of leukemia and brain malignancy treated with radiation. This paper was cited by ASCO as one of the major advances in cancer treatment, prevention and screening in 2005.

Psychosocial outcomes and health-related quality of life among adult survivors of childhood cancer (*Zeltzer et al, Cancer Epidemiol Biomarkers Prev, 2008*). This manuscript provided the first comprehensive assessment of QOL and psychosocial outcomes two- to three-decades following childhood cancer. This paper was one of the top ten most cited papers in CEBP in 2009.

Dose-specific radiation risk for subsequent thyroid cancer (*Sigurdson et al, Lancet, 2005*). Tissue-specific radiation dosimetry provided dose-specific risks for radiation associated thyroid cancer and demonstrated that thyroid doses higher than 30 Gy are consistent with a cell-killing effect.

Highlights

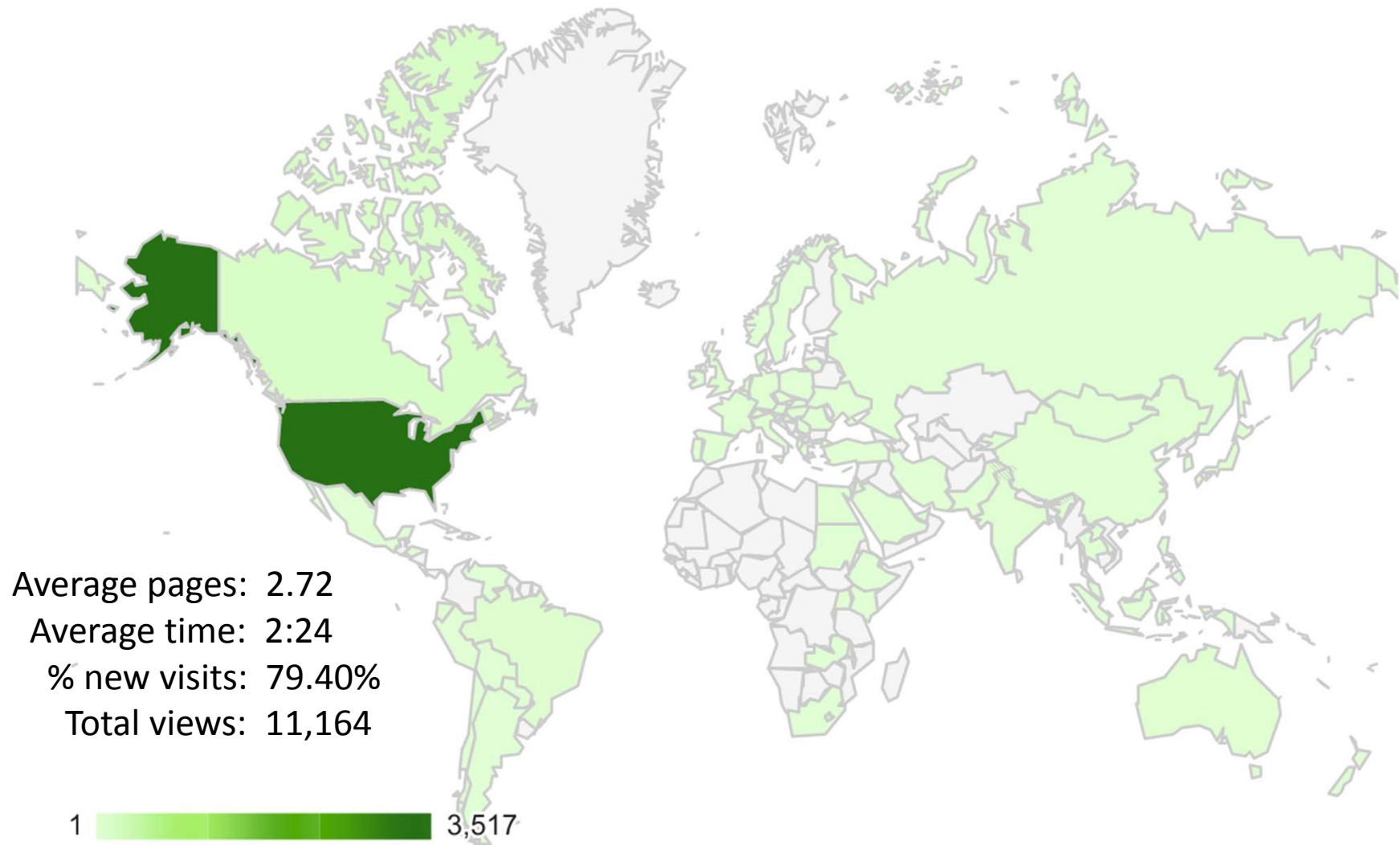
- 236 Investigators involved in CCSS research
- 29 Investigator-initiated grants totaling \$24.7 Million
- 32 Students/Trainees
- 17 Molecular genetic studies
- 4 Randomized intervention trials



10,380 visits came from 91 countries/territories (6/1/11 – 5/31/12)

	Page	Pageviews	Unique Pageviews	Avg. Time on Page
1	/	10,689	7,535	0:00:52
2	/data-and-analysis/public-access-data-tables	2,834	1,342	0:01:29
3	/published-research/publications	1,997	1,435	0:03:54
4	/documents/original-cohort-questionnaires	1,604	617	0:02:16
5	/documents	1,562	1,063	0:00:32
6	/about/learn-more	1,174	921	0:01:20
7	/documents/questionnaires	1,142	723	0:00:26
8	/your-resource/concept-proposals	1,137	696	0:00:36
9	/your-resource/second-neoplasm-data	1,086	484	0:01:19
10	/data-and-analysis/approved-concept-proposals	1,047	428	0:02:50

	Traffic Sources Source/Medium	Visits
1	google / organic	3,324
2	(direct) / (none)	2,741
3	stjude.org / referral	2,062
4	cancer.gov / referral	665
5	bing / organic	301
6	yahoo / organic	167
7	ltfu.stjude.org / referral	162
8	cancercontrol.cancer.gov / referral	83
9	search / organic	64
10	home.web.stjude.org / referral	63



4,102 visits came from 78 countries/territories (6/1/11 – 5/31/12)

	Page	Pageviews	Unique Pageviews	Avg. Time on Page
1	/	3,390	2,584	0:01:24
2	/newsletters	853	463	0:02:01
3	/about/study-participants	617	411	0:00:29
4	/forms/ccssFollowup	616	379	0:03:04
5	/health-update-surveys	544	402	0:00:36
6	/about/definition-of-terms	524	461	0:01:00
7	/about/ccss-organizational-structure	432	320	0:00:52
8	/childhood-cancer-survivor-study/published-research	420	365	0:03:48
9	/childhood-cancer-survivor-study	384	267	0:00:33
10	/contact-ltfu	336	278	0:01:28

	Traffic Sources Source/Medium	Visits
1	google / organic	1,300
2	(direct) / (none)	941
3	stjude.org / referral	833
4	lifu.stjude.org / referral	386
5	ccss.stjude.org / referral	120
6	yahoo / organic	71
7	bing / organic	68
8	cancer.umn.edu / referral	39
9	facebook.com /referral	39
10	ctep.cancer.gov / referral	27

Sustained Participation of Cohort Members

Recruitment of Expanded Cohort

Grant Renewal (2015)

Aging

Genetic-based Research

Intervention Studies

Requests for Proposals

- Developmental Funds: Career Development
- \$50,000 per year to award
- 2+ awards annually
- Assistant Professor or lower
- Open to all academic/research institutions
- Committee to develop the RFP and criteria:
Paul Nathan (chair), Eric Chow, Kiri Ness,
Greg Armstrong
- RFP announced in the Fall
- Funding to be made in December/January

Requests for Proposals

- Research Using Genotype Data
- Illumina Omni5 chip (4.3M SNPs)
- CCSS Biorepository samples (approx. 6000 subjects)
- Primary phenotypes: SMN and BMI
- Genetics Working Group to develop RFP and review criteria for proposals to use genotype data for other phenotypes
- RFP to be issued in 2013

Future Meetings

- Annually in the Spring (April)
- Location will be based on cost considerations
- Continue to link with the International Late Effects Conference