

Cancer Control & Intervention Working Group Report

2017 CCSS Investigators' Meeting

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What is cancer control?

- Health service utilization

- Surveillance/screening, general medical care, risk-based care, hospitalization/ED, complementary medicine, dental etc.

- Health status

- General health, mental health, physical function, activity limitation, pain, anxiety/fear

What is cancer control (and intervention)?

- Lifestyle behaviors
 - Exercise, diet, smoking, alcohol, sun protection
- Financial/insurance outcomes
- Social outcomes
- Risk-reducing interventions e.g. surveillance/screening
- Health economics

Publications 2015-17

16 publications: 1 Annals of Internal Medicine, 2 JCO, 1 JNCI, 3 Cancer

1. **HEALTH STATUS:** *Impact of temporal changes in therapeutic exposure on health status in childhood cancer survivors.* Ness. Ann of Internal Medicine
2. **INSURANCE/SOCIOECONOMIC:** *Childhood Cancer Survivor Study participants' perceptions and understanding of the Affordable Care Act.* Park. JCO
3. **SCREENING/SURVEILLANCE:** *Health care utilization, lifestyle, and emotional factors and mammography practices in the Childhood Cancer Survivor Study.* Rosenberg. CEBP
4. **RISKY BEHAVIORS:** *Longitudinal smoking patterns in survivors of childhood cancer: An update from the Childhood Cancer Survivor Study.* Gibson. Cancer
5. **INTERVENTION:** *Advancing Survivors' Knowledge (ASK) about Skin Cancer Study: Study Protocol for a Randomized Controlled Trial.* Daniel. Trials

Effect of Temporal Changes in Therapeutic Exposure on Self-reported Health Status in Childhood Cancer Survivors

Kirsten K. Ness, PhD*; Melissa M. Hudson, MD*; Kendra E. Jones, MS; Wendy Leisenring, ScD; Yutaka Yasui, PhD; Yan Chen, MS; Marilyn Stovall, PhD; Todd M. Gibson, PhD; Daniel M. Green, MD; Joseph P. Neglia, MD; Tara O. Henderson, MD; Jacqueline Casillas, MD; Jennifer S. Ford, PhD; Karen E. Effinger, MD, MS; Kevin R. Krull, PhD; Gregory T. Armstrong, MD, MSCE; Leslie L. Robison, PhD; Kevin C. Oeffinger, MD†; and Paul C. Nathan, MD†

Domain	Survivors	Siblings
General health (fair/poor)	X	X
Mental health (BSI)	X	X
Functional impairment*	X	X
Activity limitations**	X	X
Cancer-related pain	X	
Cancer-related fears/anxiety	X	

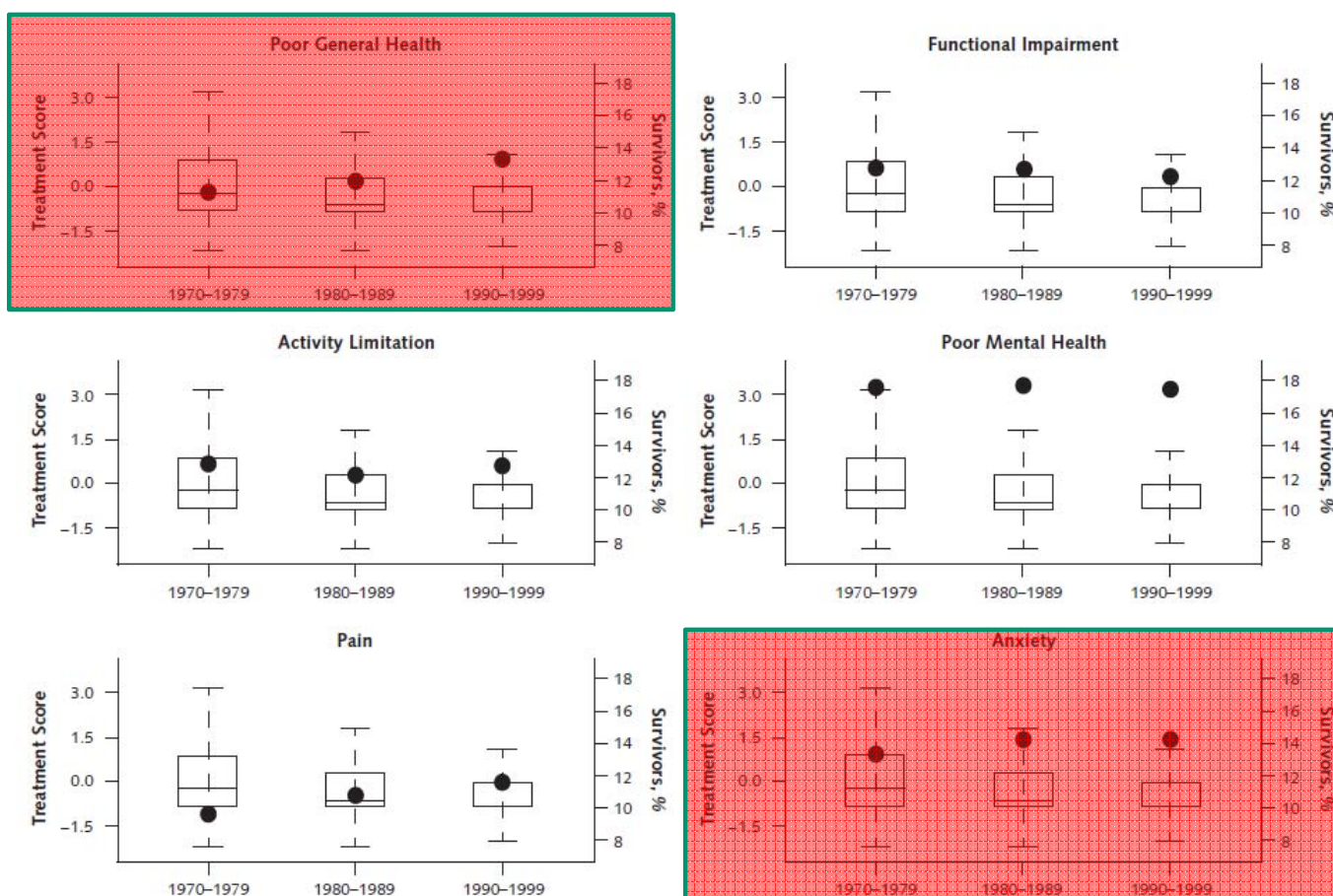
*needs help with personal care, routine needs or difficultly attending school or work

**difficulty with moderate activities (e.g. walking one block)

Changes over time

- Fewer received:
 - Cranial radiation
 - Chest radiation
 - Amputation
- For most chemotherapy agents
 - Higher proportion received agent
 - Cumulative dose lower

Treatment score and adverse health status outcome, by treatment decade



Treatment score is illustrated by the box-and-whisker plots (left y axes). Dots represent the percentage of survivors with an adverse health status outcome (right y axes).

Disease	Construct	1970s	1980s	1990s	
ALL	Poor general health	9.5%	9.9%	13.9%	↑
	Cancer-related pain	7.5%	9.5%	13.7%	↑
	Cancer-related anxiety	11.3%	12.2%	16.1%	↑
Astrocytoma	Functional impairment	33.4%	28.9%	18.1%	↓
	Activity limitation	21.1%	15.4%	12.5%	↓
Medulloblastoma	Functional impairment	45.8%	28.6%	26.5%	↓
Osteosarcoma	Poor mental health	16.8%	17.3%	24.8%	↑
	Cancer-related pain	23.9%	23.4%	26.1%	↑

Plausible explanations

- More “high-risk” patient are surviving – some may have subclinical conditions that interfere with QOL
- Better surveillance may reduce morbidity & mortality but decrease perceptions about health status
- Access to organized follow-up care and educational materials about late effects → different internal standards (expectations) on which to judge health status outcomes

Opportunities in the follow-up #5 questionnaire

Rich in “cancer control questions”

- Health care utilization
- Risky and health behaviors (EtOH, tobacco, physical activity)
- Health status
- Schooling, employment, income, insurance

Opportunities in the follow-up #5 questionnaire

First uniform assessment of health care utilization for the entire cohort:

- Outpatient visits (PCP, survivor clinics, cancer center)
- Emergency department visits
- Hospitalizations – number, reason, procedures & surgeries
- Surveillance:
 - Breast, colon, skin, thyroid, cervical, prostate cancer
 - Cardiac and carotid artery disease
 - Bone density
- Survivor care plans
- “Risk-based” care

Concepts in development using F/U #5 data

- Compliance with surveillance for SMNs and cardiac dysfunction in the era of the COG guidelines
- Health care utilization and costs of care in survivors
- Exercise and late mortality in survivors

**MANAGING
CANCER CARE**

Finding Health Care Services +

Costs & Medical Information

Advance Directives

Using Trusted Resources

Financial Toxicity and Cancer Treatment (PDQ®)-Health Professional Version

Financial Toxicity Associated with Cancer Care—Background and Prevalence

- [Introduction](#)
- [Background](#)
- [Etiology and Risk Factors](#)
- [Prevalence](#)
 - [Prevalence of high out-of-pocket costs](#)
 - [Prevalence of productivity loss](#)
 - [Prevalence of asset depletion and medical debt](#)
 - [Incidence and prevalence of bankruptcy](#)
 - [Prevalence of financial stress, distress, or worry](#)
 - [Prevalence of financial hardship as a composite measure](#)

SECTIONS

Financial Toxicity Associated with Cancer Care—Background and Prevalence

[Risk Factors Associated with Financial Toxicity](#)

[Consequences of Financial Toxicity Among Cancer Patients](#)

[Evidence Gaps and Areas for Future Research](#)

[Changes to This Summary \(05/03/2017\)](#)

[About This PDQ Summary](#)

 [View All Sections](#)

Financial toxicity: past and future work

Elyse Park and Anne Kirchhoff:

- Ancillary study in 2011-2012 (ACA time)
- 698 survivors and 173 siblings
- Several new manuscripts under revision or pending submission:
 - Relationship between health insurance and outpatient care (Mueller)
 - Job lock (Kirchhoff)
 - High out of pocket medical costs → financial burden (Nipp)
 - Relationship between insurance coverage and financial concerns (Park)

Financial toxicity: past and future work

Financial toxicity assessment in follow-up #6:

- 1/3rd of cohort
- 31 questions
 - Health insurance
 - Medical debt
 - Impact of prior cancer on work, ability to work and job lock
 - Assets and debt
 - Bankruptcy

Financial toxicity: past and future work

Future opportunities:

- Cost-effectiveness of screening → optimization of guidelines
- Impact of risk-based care/survivorship guidelines on health outcomes, costs etc.
- Comparison of health system costs between different therapeutic approaches (e.g. amputation vs limb salvage)

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

F. Lennie Wong, PhD; Smita Bhatla, MD, MPH; Wendy Landler, PhD, RN; Liton Francisco, BS; Wendy Lelsenring, ScD; Melissa M. Hudson, MD; Gregory T. Armstrong, MD; Ann Mertens, PhD; Marilyn Stovall, PhD; Leslie L. Robison, PhD; Gary H. Lyman, MD, MPH; Steven E. Lipshultz, MD; and Saro H. Armenian, DO, MPH

Conclusion: The COG guidelines could reduce the risk for heart failure in survivors at less than \$100 000/QALY. Less frequent screening achieves most of the benefits and would be more cost-effective than the COG guidelines.

Routine Echocardiography Screening for Asymptomatic Left Ventricular Dysfunction in Childhood Cancer Survivors: A Model-Based Estimation of the Clinical and Economic Effects

Jennifer M. Yeh, PhD; Anju Nohria, MD; and Lisa Diller, MD

Conclusion: Current recommendations for cardiac assessment may reduce CHF incidence, but less frequent assessment may be preferable.

