

# Cancer Control and Intervention Working Group

Paul Nathan on behalf of:

Kevin Oeffinger, Tara Henderson, Jennifer  
Ford, Jackie Casillas, Melissa Hudson, Kiri  
Ness, Wendy Leisenring

- 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 and social outcomes
- Risk-reducing interventions
- Health economics

# Health behaviors matrix

	<b>Baseline</b>	<b>2000</b>	<b>2003</b>	<b>2007</b>	<b>Expanded cohort baseline</b>
Tobacco	X		X	X	X
Alcohol	X			X	X
Physical activity	X		X	X	X
Sun protection			X		

# Health care utilization matrix

	Baseline	2000	2003	2007	Expanded cohort baseline
General	X		X	X	X
Risk-based			X	X	X
Hospitalization	X	X	X	X	X
Employment	X		X	X	X
Insurance	X	X	X	X	X
Mammogram			X	X	X
CRC			X	X	
Pap smear			X	X	X
Skin cancer			X	X	

# Opportunities for research in the cancer control working group

1. Longitudinal studies
2. Leveraging the expansion cohort
3. Ancillary studies
4. Intervention studies

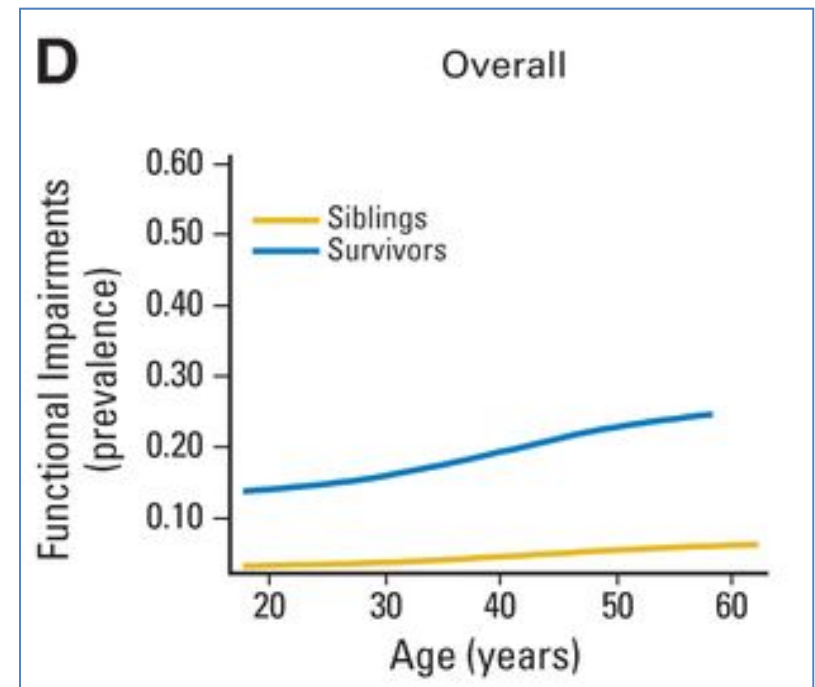
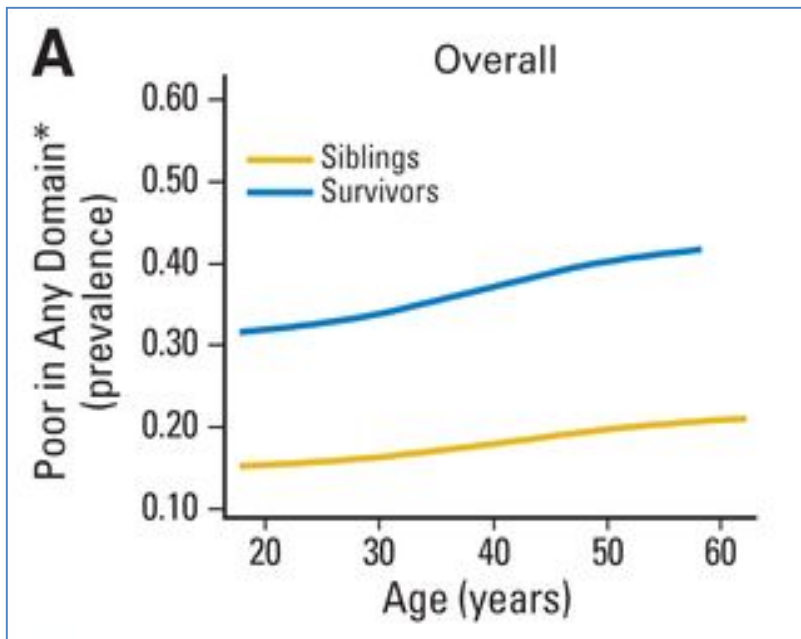
# Examples of longitudinal analyses

1. Hudson MM, et al. **Age-Dependent Changes in Health Status in the Childhood Cancer Survivor Cohort** J Clin Oncol 2015
2. Casillas J, et al. **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
3. Wilson CL, et al. **Decline in Physical Activity Level in the Childhood Cancer Survivor Study cohort** Cancer Epidemiol Biomarkers Prev 2014

- General health
- Mental health
- Physical function
- Activity limitation
- Pain
- Anxiety/fear

## Age-Dependent Changes in Health Status in the Childhood Cancer Survivor Cohort

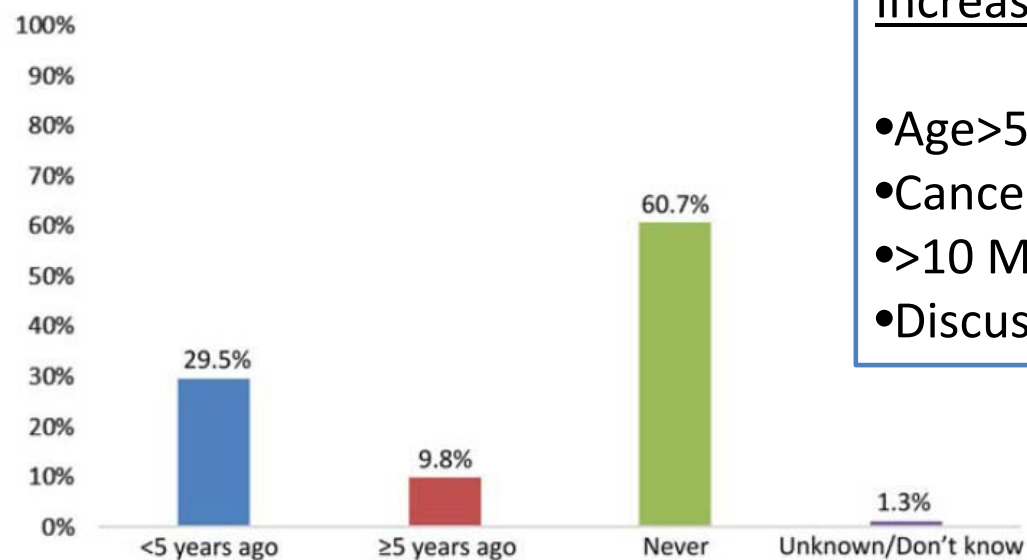
*Melissa M. Hudson, Kevin C. Oeffinger, Kendra Jones, Tara M. Brinkman, Kevin R. Krull, Daniel A. Mulrooney, Ann Mertens, Sharon M. Castellino, Jacqueline Casillas, James G. Gurney, Paul C. Nathan, Wendy Leisenring, Leslie L. Robison, and Kirsten K. Ness*





# Predictors of Colorectal Cancer Surveillance Among Survivors of Childhood Cancer Treated With Radiation: A Report From the Childhood Cancer Survivor Study

Casey L. Daniel, PhD, MPH<sup>1</sup>; Connie L. Kohler, DrPH<sup>2</sup>; Kayla L. Stratton, MS<sup>3,4</sup>; Kevin C. Oeffinger, MD<sup>5</sup>; Wendy M. Leisenring, ScD<sup>3,4</sup>; John W. Waterbor, MD, DrPH<sup>6</sup>; Kimberly F. Whelan, MD, MPH<sup>7</sup>; Gregory T. Armstrong, MD<sup>8</sup>; Tara O. Henderson, MD, MPH<sup>9</sup>; Kevin R. Krull, PhD<sup>8</sup>; Leslie L. Robison, PhD<sup>8</sup>; and Paul C. Nathan, MD, MSc<sup>10</sup>



**Figure 2.** Distribution of colorectal cancer surveillance is shown by most recently reported colonoscopy/sigmoidoscopy.

## Increased compliance

- Age > 50
- Cancer visit in previous year
- > 10 MD visits in past year
- Discussing future cancer risk with MD



## 1. Two priority concepts

- Health status among adult survivors of childhood cancer by treatment era
- The impact of chronic disease on health care utilization

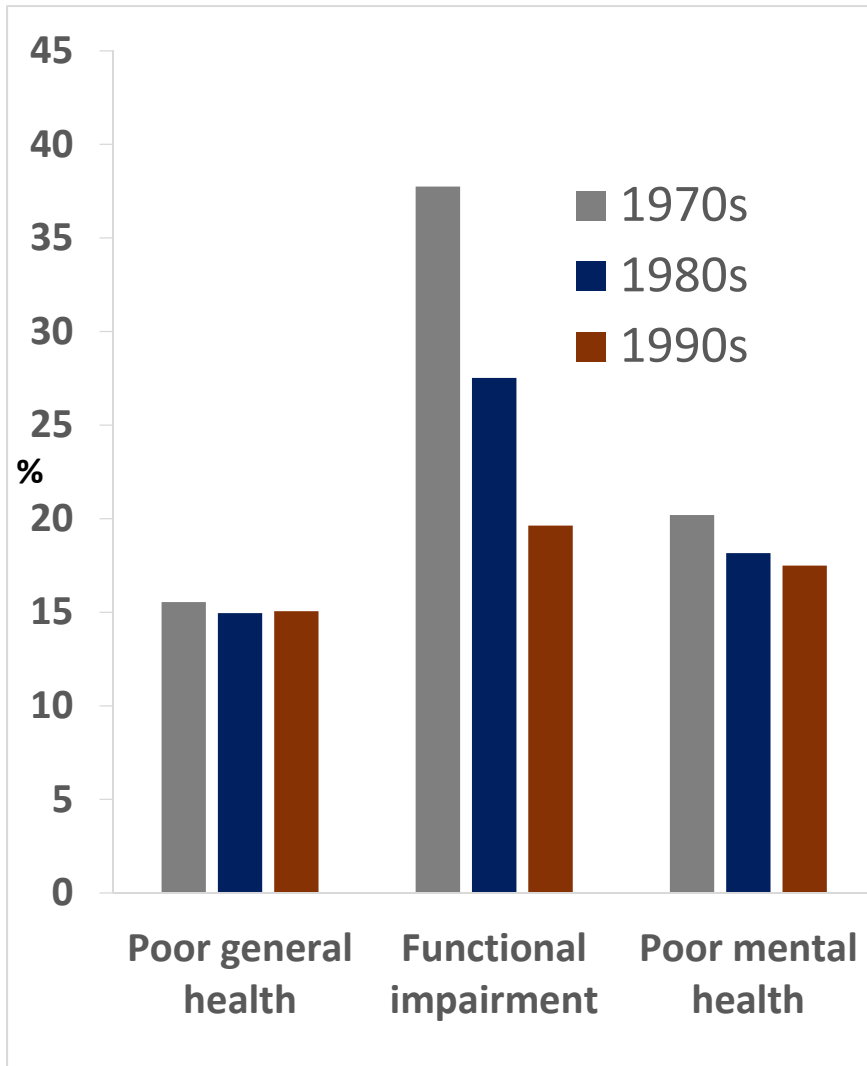
## 2. Repeat high-impact analyses in new/ combined cohorts

# Relative risk of poor health status by treatment era

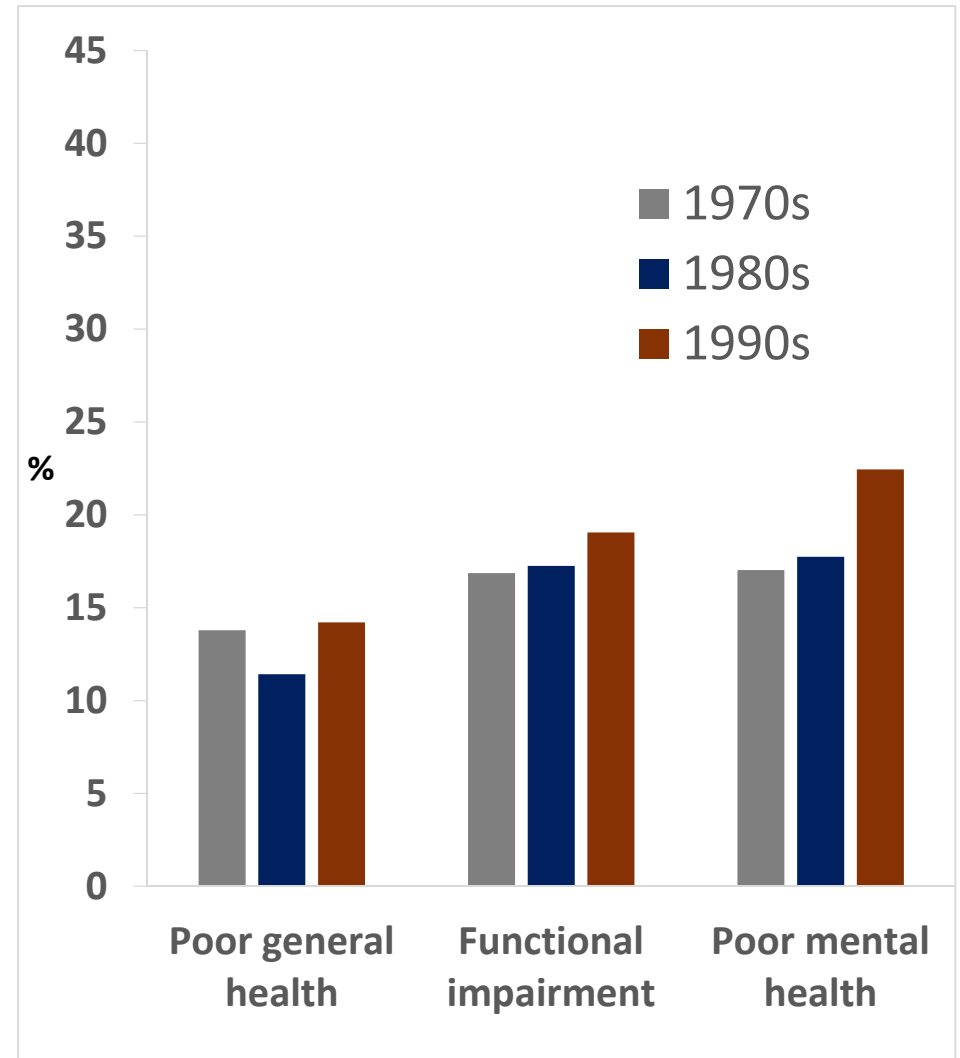
	Siblings (N=3149)	1970-79 (N=5620)	1980-89 (N=6099)	1990-99 (N=7041)
	RR	RR	RR	RR
Poor general health	1.0	2.2	2.4	2.6
Functional Impairment	1.0	5.0	5.0	4.5
Activity limitation	1.0	2.3	2.2	2.3
Poor mental health	1.0	1.7	1.7	1.8
Any domain	1.0	1.9	1.8	1.9
Pain		1.0	1.2	1.2
Anxiety		1.0	1.1	1.2

Adjusted by age, sex and race

## Health status in brain tumor survivors



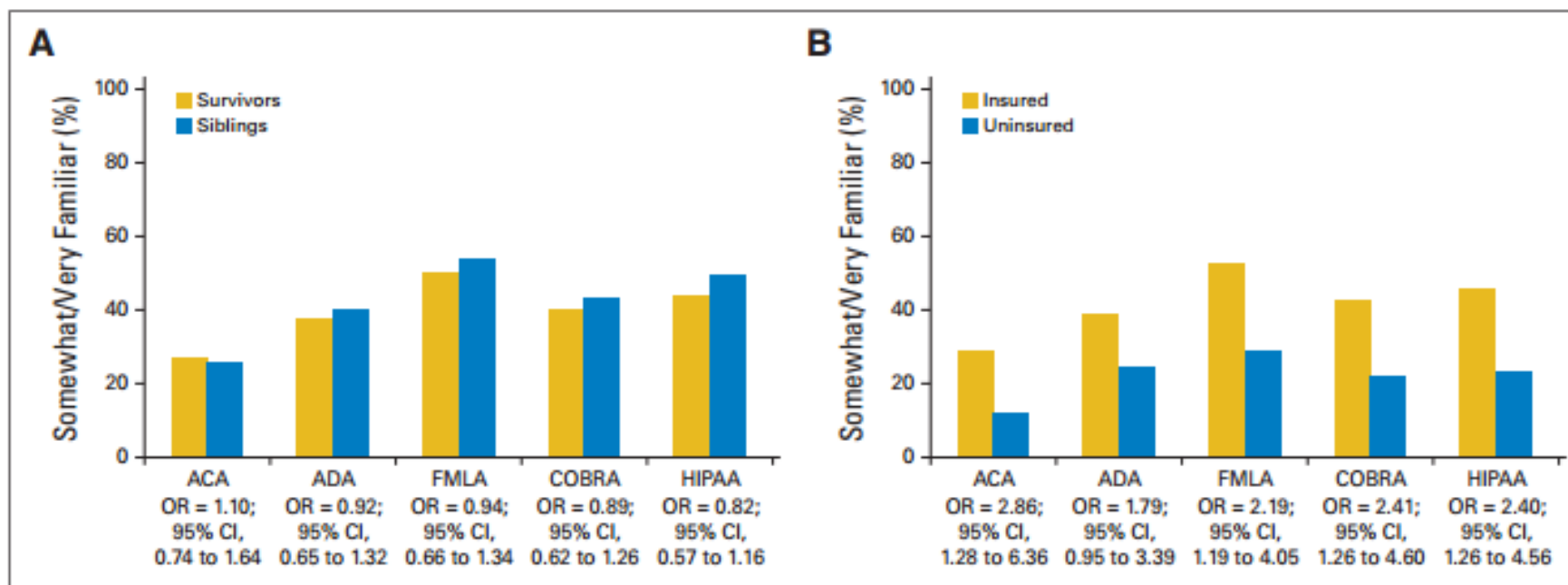
## Health status in bone tumor survivors



1. Kirchhoff AC, et al. **Security Income and Social Security Disability Insurance Coverage among Adult, Long-Term Childhood Cancer Survivors** J Natl Cancer Inst 2015
2. Park ER, et al. **Childhood Cancer Survivor Study Participants' Perceptions and Understanding of the Affordable Care Act** J Clin Oncol 2015
3. Mertens AC, et al. **Factors Associated with Recruiting Adult Survivors of Childhood Cancer into Clinic-Based Research** Pediatr Blood Cancer 2014

## Childhood Cancer Survivor Study Participants' Perceptions and Understanding of the Affordable Care Act

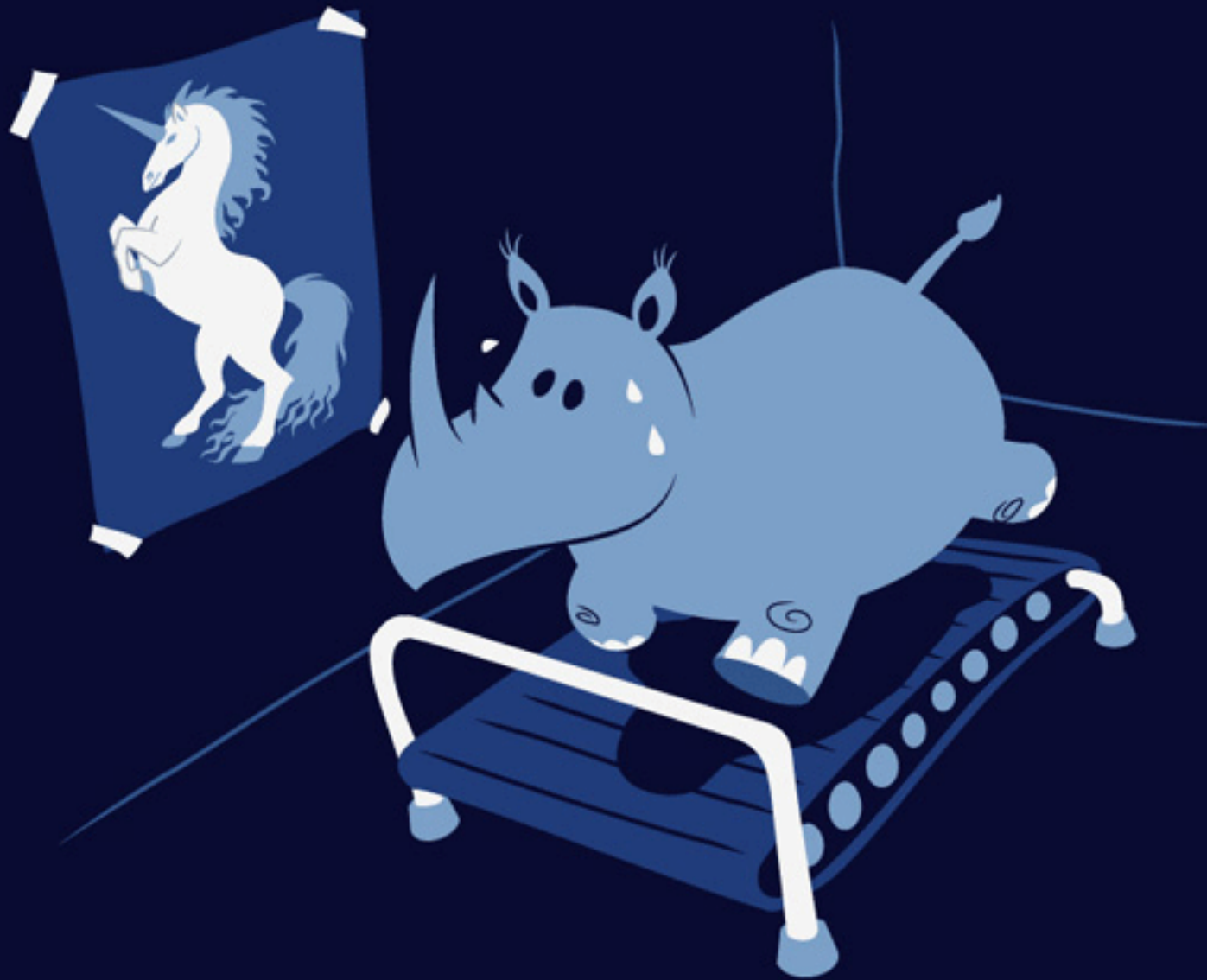
Elyse R. Park, Anne C. Kirchhoff, Giselle K. Perez, Wendy Leisenring, Joel S. Weissman, Karen Donelan, Ann C. Mertens, James D. Reschovsky, Gregory T. Armstrong, Leslie L. Robison, Mariel Franklin, Kelly A. Hyland, Lisa R. Diller, Christopher J. Recklitis, and Karen A. Kuhlthau



**Fig 2.** Familiarity of (A) survivors of childhood cancer and their siblings and of (B) insured and uninsured survivors with health insurance–related legislation. Multivariable logistic regressions adjusted for current age, sex, marital status, and chronic disease. Models comparing survivors and siblings were also adjusted for insurance status. ACA, Patient Protection and Affordable Care Act; ADA, Americans with Disabilities Act; COBRA, Consolidated Omnibus Budget Reconciliation Act; FMLA, Family Medical Leave Act; HIPAA, Health Insurance Portability and Accountability Act; OR, odds ratio.

## Intervention studies

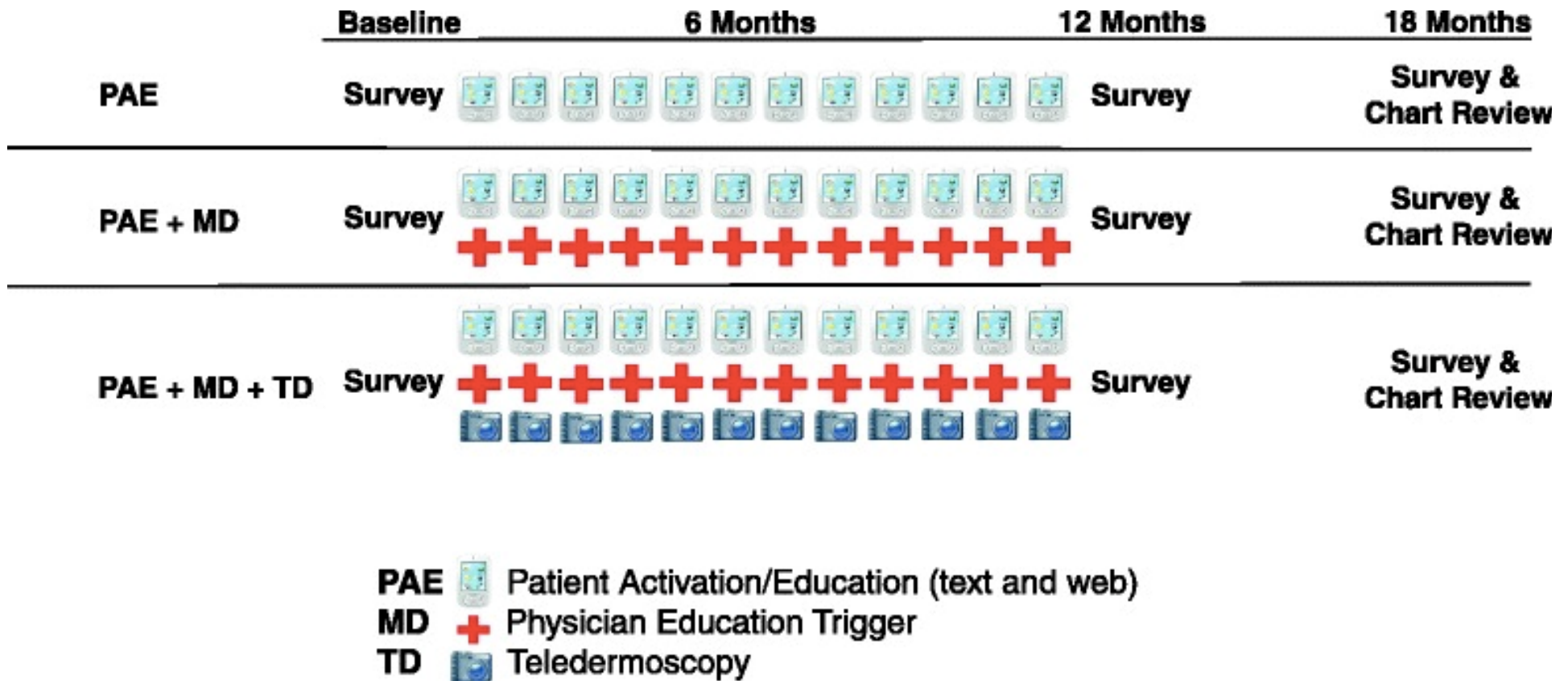
- Efficacy of a Tobacco Quit Line (R01: Klesges)
- ECHOS (cardiac screening; R01: Hudson/Cox)
- EMPOWER (breast cancer screening; R01: Oeffinger)
- EQUAL: Exercise and QUality diet after Leukemia (R01: Tonorezos)
- ASK: Advancing survivors' knowledge about skin cancer (R01: Geller)





1. Daniel CL, et al. **Advancing Survivors' Knowledge (ASK) about Skin Cancer Study: Study Protocol for a Randomized Controlled Trial** *Trials* 2015
2. Klesges RC, et al. **Efficacy of a Tobacco Quitline among Adult Survivors of Childhood Cancer** *Nicotine Tob Res* 2014
3. Hudson MM, et al. **Increasing cardiomyopathy screening in at-risk adult survivors of pediatric malignancies: A randomized controlled trial** *JCO* 2014

# The ASK Study



# The EQUAL Study

- A 2-year RCT comparing the effect of a web- and telephone-based weight loss intervention to general information about weight loss and healthy living (control).
- Participants are ALL survivors who were obese on their most recent CCSS survey.

EQUAL

# Healthways at Hopkins

Welcome back, Sally-Anne!

My Progress	Your Weight	Your Activity	Track Your Food, Weight and Activity	
<b>Week 1</b> Wed Sept 22, 2012 <a href="#">View Overall Progress</a>	STARTING <b>200</b> POUNDS CURRENT <b>200</b> POUNDS	LAST WEEK <b>0</b> MINUTES TOTAL MIN <b>20</b> MINUTES	<i>It's important to stay on track!</i> <a href="#">Track Now</a>	

### Learning Center – Week 1

## A Healthier You

**Y**our success at weight loss improves when you build a balance between eating well, moving more and mastering a positive mindset. And healthy habits in these three areas of your life will also contribute to lifelong weight management and improve your well-being. The Innergy Well-Being Guidelines can help you shape that balance. They aren't intended to be done all at once. Like a map, they can guide you toward healthy choices and keep you headed in the right direction as you begin your journey to a healthier you.

Each week, a new Learning Focus will help you learn how to apply well-tested strategies that will allow you to meet your goals.

[Read More](#)

### Recipe of the Week

### Recommended Reading

### Your Coach

**Tamara Lake**  
Registered Dietician  
[View Coach Profile](#)

✉ **COACH MESSAGES** <sup>2</sup>  
[2 new unread messages](#) [See All](#)

📅 **NEXT COACHING SESSION**  
[Sunday, September 25, 7:00pm](#) [See All](#)

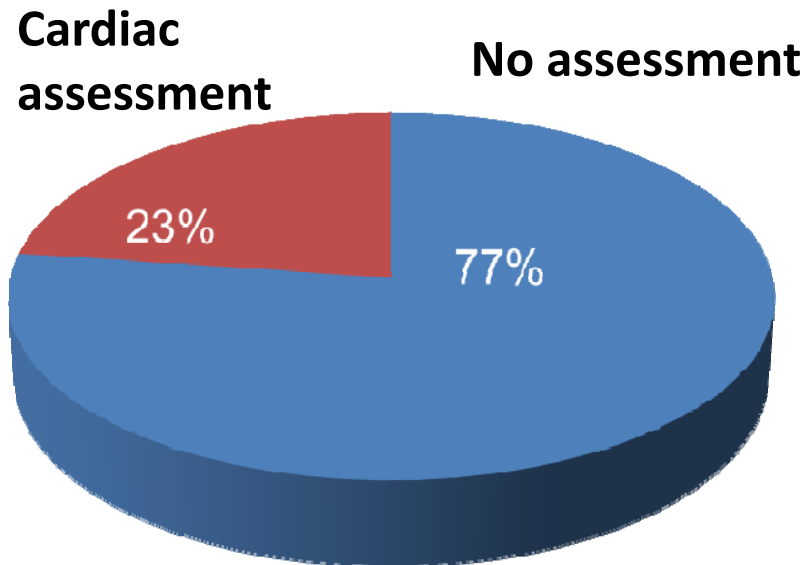
### Your Inspiration

[Edit](#)

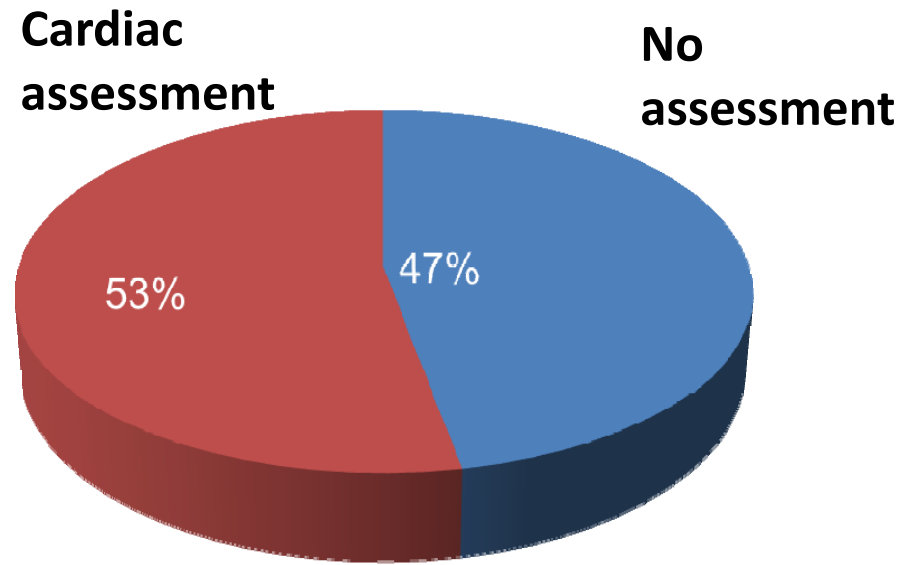
“ What matters most to me in my life is my family. I don't want to disappoint them.”

## Increasing Cardiomyopathy Screening in At-Risk Adult Survivors of Pediatric Malignancies: A Randomized Controlled Trial

*Melissa M. Hudson, Wendy Leisenring, Kayla K. Stratton, Nina Tinner, Brenda D. Steen, Susan Ogg, Linda Barnes, Kevin C. Oeffinger, Leslie L. Robison, and Cheryl L. Cox*



**Print Media Only (n=200)**



**Print Media + APN Counsel (n=194)**

- Cost-effectiveness of screening (e.g. CRC screening etc.)
- Impact of risk-based care on health system 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 Bhatia, 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. Armentian, DO, MPH

**Results of Base-Case Analysis:** The COG guidelines versus no screening have an ICER of \$61 500, extend life expectancy by 6 months and QALYs by 1.6 months, and reduce the cumulative incidence of heart failure by 18% at 30 years after cancer diagnosis. However, less frequent screenings are more cost-effective than the guidelines and maintain 80% of the health benefits.

**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.

# Opportunity matrix

	Expansion cohort	Longitudinal studies	Ancillary studies	Intervention studies
Health services use				
Health status				
Lifestyle/behaviors			**	**
Risk reduction				**
Financial/social				
Health economics				

\*\*Mobile eHealth technology such as





