

# Complementary Therapies and Prayer Use Among Cancer Survivors

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# Goals

- Prevalence of
  - Complementary and Alternative Medicine (CAM)
  - Prayer Use
- CAM and prayer: Differences and Similarities
- Use of Population-Based National Database

# Cancer Survivorship

- **1.4 million**
  - diagnosed with cancer annually
- **>10 million**
  - individuals live with history of cancer
- **Doubling**
  - by the year 2050

Jemal: Cancer 2004  
Yabroff: JNCI 2004

# Why

## Cancer Survivorship?

- Secondary Malignancy
- Ongoing symptom burden
  - (Ex: Fatigue, Pain, Insomnia)
- Treatment of Late Effects
  - (Ex: Heart, pulmonary, bone)
- Persistent Psychological distress and perceived unmet needs

Oeffinger: JCO. 2006

Mao: J Am Board Fam Med. 2007

Carver: JCO. 2007

Barg: Cancer. 2007

# CAM

- Definition: Medical practices that are generally not taught in medical schools and are not widely available in hospitals in the United States
- The definition of CAM is culturally bound
- Allopathic medicine focuses on the specific effects of the therapy; while CAM focuses on the holistic experience of the patients

Eisenberg et al. N Engl J Med. 1993

# Major Domains of CAM

- Alternative medical systems
  - Traditional Chinese medicine, Traditional Ayurveda
- Mind-body interventions
  - Prayer, meditation, hypnosis, guided-imagery
- Biologically based therapies
  - Herbal remedies, special diets
- Manipulative and body-based methods
  - Chiropractic treatments, Massage therapies
- Energy therapies
  - Qi gong, Reiki, Therapeutic touch

# CAM and Spirituality

- Many CAM traditions embrace the spiritual aspect of health
  - (Ex: TCM, Ayurveda)
- Many CAM practices emphasize on the spiritual health
  - (Ex: Reiki, Tai Chi, Mindfulness Meditation)

# CAM: general population

- Substantial growth in the early to mid 1990's
- Some leveling off since 1997

Eisenberg: N Engl J Med. 1993

Eisenberg: JAMA. 1998

Tindle: Altern Ther Health Med. 2005

# CAM use: cancer survivors

- Between 7 to 83% of cancer survivors have used CAM
- Limitations of existing research
  - Convenient sample from tertiary centers
  - Differing definitions of CAM
  - Many studies on breast cancer only
  - Lack of a coincident comparison group

Ernst: Cancer. 1998

Richardson: JCO. 2000

DiGianni: JCO. 2002

# Specific Aims

- To determine the prevalence and predictors of CAM and prayer use among a nationally representative group of cancer survivors
- To determine whether CAM and prayer use among cancer survivors differed from the general US population and other chronic disease groups.

# Data Source

## 2002 National Health Interview Survey

- National representative sample of non-institutionalized population
- Confidential interviews in households by the National Center for Health Statistics
- Sample adult core and alternative medicine supplement
- Included 31,044 individuals aged 18 and older
- Over sampled African American and Hispanic
- Overall response rate 74.3%
- FREE Web access: <http://www.cdc.gov/nchs/nhis.htm>

# Study Design

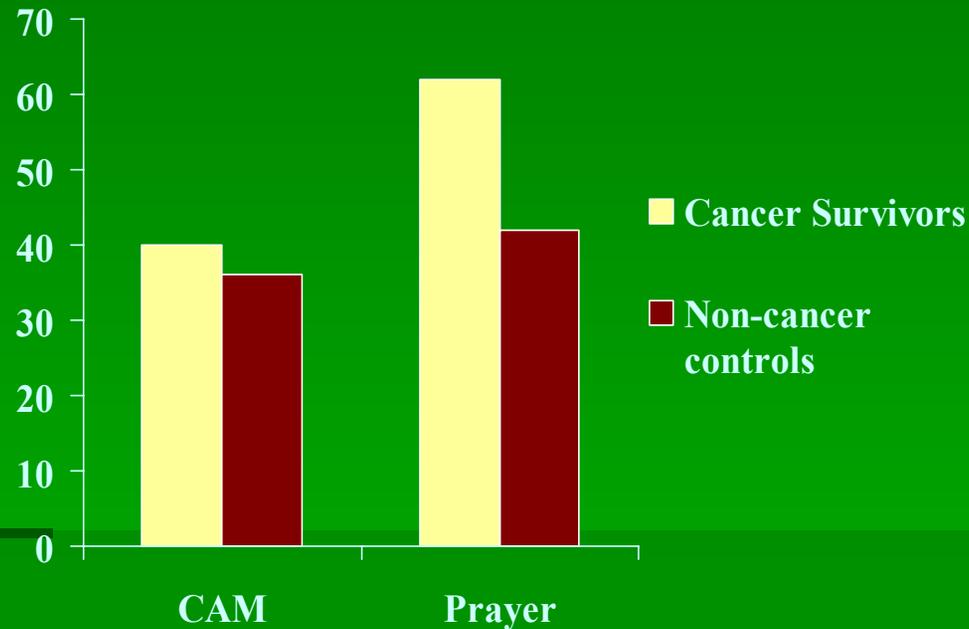
- Cross-section
- Cancer survivor (independent variable)
  - Excluded non-melanoma skin cancer
  - Non-cancer controls were further classified
    - Chronic serious medical illnesses (e.g. coronary heart disease)
    - Chronic symptomatic illnesses (e.g. arthritis)
    - Chronic asymptomatic illnesses (e.g. hypertension)
    - Other
- CAM and Prayer (dependent variable)
  - 27 non-prayer CAM modalities
  - Three questions on prayer for health reasons

# Statistical Analysis

- Descriptive Analysis
- Chi-square analysis for binary outcomes
- Multivariate logistical regression controlling for confounders
- Used “Svy” commands in STATA 8.0 to account for the multistage design of the survey

# Results

Compared to non-cancer controls (N=29,092), cancer survivors (N=1904) are more likely to use CAM and prayer.



- CAM: Adjusted\* OR 1.36, 95% C.I. 1.20-1.53, P<0.001
  - Prayer: Adjusted\* OR 1.87, 95% C.I. 1.66-2.10, P<0.001
- \*adjusted for age, sex, race/ethnicity, education, income, and region

# Cancer survivors vs. other chronic diseases

Adjusted for age, sex, education, income, race/ethnicity, and region

Chronic diseases*	CAM	Prayer
	O.R.(95% C.I.)	O.R.(95% C.I.)
Cancer (reference)	1	1
Serious (e.g. heart disease)	0.79 (0.69 – 0.91)	0.83 (0.72 -0.95)
Symptomatic (e.g. arthritis)	1.05 (0.92 -1.19)	0.66 (0.58-0.75)
Asymptomatic (e.g. HTN)	0.72 (0.62 -0.83)	0.48 (0.42 -0.56)
Other	0.53 (0.47 -0.60)	0.36 (0.32-0.41)

# Predictors of CAM and Prayer Differ

Social demographic factors	CAM	Prayer
<b>Sex:</b> female vs. male	↑	↑
<b>Age:</b> elderly (>65) vs. young	↓	↑
<b>Education:</b> college or more vs. less	↑	↔
<b>Annual household income:</b> >\$20,000 vs. less	↑	↓
<b>Ethnicity:</b> hispanic vs. non-hispanic white	↓	↑
<b>Race:</b> black vs. non-hispanic white	↓	↑
<b>Region:</b> south vs. northeast	↓	↑

# CAM and prayer use: cancer survivors

- CAM

- Mind body therapies (e.g. guided imagery): 22%
- Biological therapies (e.g. herbs): 21%
- Therapies requiring a provider (e.g. massage): 14%
- Seek CAM outside home (e.g. classes): 18%
- Self-use of CAM only: 22%

- Prayer for health

- Self: 62%
- By others: 39%
- Prayer group: 15%

# Limitations

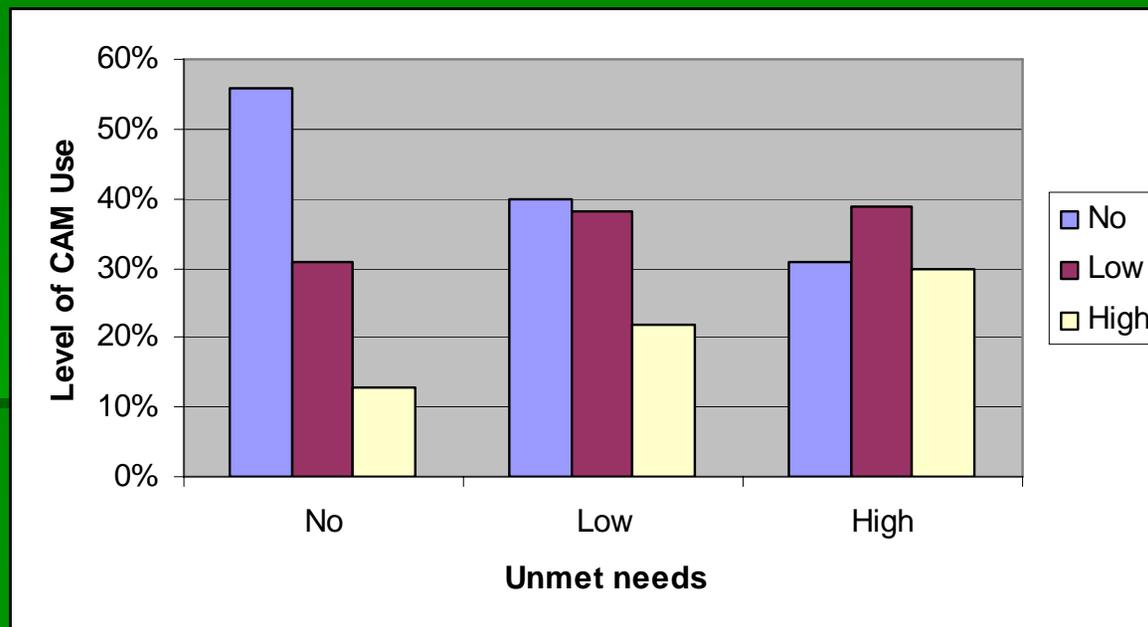
- Potential misclassification of exposure: cancer survivorship status
- Potential misclassification of outcomes: CAM use
- Unmeasured clinical variables
- Generalizability

# Take home points

- A previous cancer diagnosis is associated with a modest increase in CAM use
- Cancer survivors are substantially more likely to use prayer for health than individuals without cancer
- The predictors of CAM and prayer are clearly different

# Future Directions

- Pennsylvania Cancer Registry (PI: Barg)



Barg: Cancer 2007

Mao: J. Cancer Survivorship. (In Press)

# Spiritual Wellbeing & CAM Use

- “How important to you is your participation in religious activities such as praying, going to church?”
- “How much has your spiritual life changed as a result of cancer diagnosis?”
- “To what extent has your illness made positive changes in your life?”

# PENN Integrative Oncology Working Group

**The Penn Integrative Oncology Working Group** at the Abramson Cancer Center brings a multidisciplinary group of clinicians, educators, and researchers together to thoughtfully evaluate and integrate complementary medicine to enhance the physical, psychological, and spiritual quality of life for people whose lives have been affected by cancer.

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