The Cancer Prevention Study – 3

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Vice President, Medical Affairs
American Cancer Society
“Everyone knows that cigarette smoking causes lung cancer. Few realize that it took three years, 22,000 volunteers, and 188,000 study participants to prove it.”

Meghan Murphy, The Greeley Tribune; 2007
## ACS Cancer Prevention Studies

The Society has been conducting large-scale, nationwide population studies to examine the causes of cancer and how to prevent it for nearly 60 years.

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The Researchers at AMA Conference
Tobacco Control and Mortality

Number of cigarettes per capita

Year

Lung cancer death rate per 100,000

Cigarette consumption

1964 Surgeon General’s Report

Lung cancer Men

Lung cancer women

CPS-I

Hammond-Horn Study

CPS-II
Previous CPS Implications

• These studies have been paramount in understanding the role of smoking, obesity, and nutrition/physical activity in cancer etiology

• Results helped to establish various relationships between lifestyle, environment, genetics and cancer risk including:
  – Smoking and lung cancer
  – Obesity and risk of various types of cancer
  – Physical activity and cancer prevention
  – Sitting time and premature death
  – Red and processed meat and colon cancer risk
  – Fruits and vegetables and cancer prevention
  – Aspirin and colon cancer prevention
Obesity and Mortality

J Chron Dis, 1979

VARIATIONS IN MORTALITY BY WEIGHT AMONG 750,000 MEN AND WOMEN

EDWARD A. LEW and LAWRENCE GARFINKEL
Department of Epidemiology and Statistical Research, American Cancer Society, Inc., 777 Third Ave., NY 10017, U.S.A.

(Received in revised form 27 November 1978)
Enhancements to the CPS-II Data Resources

**Baseline Cohort** (1.2 million) → **Nutrition Cohort** (n=184,000) → **Blood Cohort** (n=40,000) → **Buccal Cohort** (n=70,000) → **Colorectal** (n=>800) and **Breast Tumor** (n=>1600)

- **Questionnaire 1992***
Diet and Cancer

Meat Consumption and Risk of Colorectal Cancer

Meat Consumption among Black and White Men and Risk of Prostate Cancer in the Cancer Prevention Study II Nutrition Cohort

Dairy, Calcium, and Vitamin D Intake and Postmenopausal Breast Cancer Risk in the Cancer Prevention Study II Nutrition Cohort

Association of Alcohol Intake With Pancreatic Cancer Mortality in Never Smokers
2006 Guidelines on Nutrition and Physical Activity for Cancer Prevention

Individuals:

- Maintain a healthy weight throughout life.
- Adopt a physically active lifestyle.
- Consume a healthy diet, with an emphasis on plant sources.
- If you drink alcoholic beverages, limit consumption.
CPS Major Contributions to Public Health

Smoking
- Contributions to 21 U.S. Surgeon General Reports on Smoking & Cancer.
- Confirm relationship of 2\textsuperscript{nd} hand smoke with lung cancer & heart disease, helping to motivate smoke-free laws.
- Ongoing role in debunking myths from tobacco industry.
- Low tar/nicotine cigarettes do not reduce the risk of lung cancer.

Obesity, nutrition, and physical activity
- First epidemiological study that overweight/obesity shortens longevity.
- Landmark paper linking obesity to increased death rates from 10+ cancer sites.
- First US epidemiologic study that sitting time shortens longevity.
- Major contributions to IARC Monographs, WCRF/AICR Reports

Other areas
- Discovery of the link between aspirin use and lower risk of colon cancer.
- Air pollution (small particulates and ozone), increase death rates from heart and lung conditions; motivate the Environmental Protection Agency to propose more stringent limits on air pollution.
> 450 Reports, Monographs, Peer-Reviewed Publications Have Contributed to Falling Cancer Death Rates

Jemal et al.,
Annual Report to Nation 2009
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Changing the Course of Cancer...

The 3rd Cancer Prevention Study (CPS-3) will...

• Examine a wide spectrum of lifestyle, behavioral, environmental, and genetic factors in relation to cancer risk, survival, and mortality

• Identify (or validate) early markers of disease
Scientifically, Why Do We Need a 3rd Cancer Prevention Study?

• To explore new areas of research due to changes in environment, lifestyles, and new scientific technologies
• To study diverse populations in the US (defined by race/ethnicity)
• To improve understanding of cancer biology and etiology leading to better individualized risk prediction
• To continue tracking the evolution of the public health impact of smoking and obesity
• To have a contemporary national resource in the US as most new large studies are overseas
What Makes CPS-3 Different from Other Cancer Prevention Studies?

- Higher proportion of younger adults (e.g., 60% are 30-49 yrs)
- Blood draw at baseline on all participants
- Physical assessment at baseline (e.g., waist circumference)
- Detailed medication history at baseline
- Use of electronic technologies for data collection
- Greater ethnic/racial diversity
The knowledge gap in cancer disparities

• 2011 President’s Cancer Panel concluded:

“The current understanding of cancer risk, progression, and outcomes is based largely on studies of non-Hispanic white populations. The risk factors, screening guidelines, and treatment regimens identified through research are often not appropriate for individuals of non-European descent.”

• Without racially/ethnically diverse study populations in place, we can’t improve our understanding of why these differences exist
Where are we Now?

Study Participant Characteristics*

- ~110,000 recruited
- 74% women
- Race/ethnicity
  - 82% NH White
  - 3% African American
  - 10% Hispanic
  - 1% Asian
  - 4% Other
- Age
  - 25% age 30-39
  - 36% age 40-49
  - 30% age 50-59
  - 9% age 60-65
- BMI
  - 35% normal weight (<25)
  - 33% overweight (25-<30)
  - 30% obese (30+)
- Smoking status
  - 64% never
  - 7% current
  - 25% former

*As of August 1, 2011
CPS-3 Goals

**OPERATIONAL**

- Enroll a diverse group of **at least 300,000** men and women aged 30-65 years with no prior history of cancer, **by December 2013**
- At least 25% racial/ethnic minority participation
- Geographic diversity
- Blood specimens at enrollment

**SCIENTIFIC**

- Examine a wide spectrum of lifestyle, behavioral, environmental, and genetic factors in relation cancer risk and mortality
- Study gene x environment interactions in cancer risk and mortality
- Identify and/or validate early markers of disease
Venues to Reach 300,000 by Dec 2013

- Nationwide-wide engagement to support enrollment
- Utilize a combination of venues:
  - Relay For Life and other event-based enrollment
  - Open community enrollment in select markets
  - Corporate/worksite enrollment
  - Hospital-based enrollment
  - Targeted recruitment to increase minority & male participation utilizing all venues
Hospital or Corporate Based Enrollments

Initial enrollment

- Part One (at home electronic)
  - Schedule appointment
  - Comprehensive baseline survey
- Part Two (on site during appointment)
  - Consent and short survey
  - Waist circumference
  - Small blood sample

Long-term follow-up

- Repeat surveys every few years
- Annual newsletter to participants
Hospital Partner Perspective

• Provides return on investment in the shared vision for a healthier community and an emphasis on disease prevention

• Supports their partnership with the American Cancer Society and our mission to save more lives from cancer

• Offers great opportunity to provide personal and meaningful employee engagement at no cost

• Enhances visibility and media attention for the hospital in their local community
Community Outreach by Hospitals

Johnson Memorial to host only Cancer Prevention Study in Central Indiana for 2009

Monday, June 30, 2008

The Cancer Care Center of Johnson Memorial Hospital is proud to announce that the American Cancer Society (ACS) has chosen the Relay For Life of Johnson County - Franklin site as the only Relay in Central Indiana for 2009 to host its Cancer Prevention Study - 3 (CPS-3).

Men and women between the ages of 30 and 85 years who have no personal history of cancer are invited to join this historic research study. Those interested in participating in the study will be able to sign up during the 2009 Relay For Life event in Franklin at Johnson Memorial Hospital on Saturday, May 16, 2009.

The ultimate goal is to enroll 500,000 adults from various racial/ethnic backgrounds from across the U.S. The purpose of CPS-3 is to better understand the lifestyle, behavioral, environmental and genetic factors that cause or prevent cancer and to ultimately eliminate cancer as a major health problem for this and future generations. CPS-3 is a grassroots effort where local communities from across the country can support cancer research not just through fundraising efforts like Relay For Life, but also by participating actively in this historic research study.

The study involves participants filling out a personal health history and providing a small blood sample that will be taken the day of the event. Then, participants will be followed through periodic health surveys.

The Franklin Relay was chosen because of the tremendous growth the event has created over the past several years. In the last five years, the event has gone from raising $43,500 in 2003 to over $104,000 this year. The event has also been recognized with several awards including All-American Relay, Facesetter Award, Most Cancer Survivors and Most Funds Raised in the Central Indiana Region.

Past long-term American Cancer Society follow-up studies have played a major role in cancer prevention at the American Cancer Society, as well as in other national and international efforts. More than 300 scientific articles by American Cancer Society epidemiologists have been published from these studies and findings have significantly contributed to tobacco-related research, and to the understanding of obesity, diet, physical activity, hormone use, air pollution, and various other exposures in relation to cancer and other diseases.

The Relay For Life - Franklin site committee is in need of volunteers to help with the registration of participants in the study, as well as to volunteer with the event. If you are interested in joining in the fight against cancer, please contact event chairperson Enoe Dotson at relayfamily@att.net. For more information about CPS-3, visit the ACS website at www.cancer.org/cps3.
Media and Publicity

Cancer Studies Want Yo

The goal of one study, which will follow 500,000
women to figure out who gets cancer and who doesn’t.

Claudia Kalb
Update: 12:27 PM ET Mar. 8, 2008

We will all do so to avoid a major disease—
and better understand cancer. Now researchers
have a new tool for understanding cancer. And
the tool is in your inbox. The tool is called CPS-3,
the largest study ever of its kind.

What is the significance of CPS-3 to researchers
and patients?

Cancer Prevention Study deserves support

SUNDAY TALK: THE PUBLIC SPEAKS

ACS Launches Third-Generation of
Its Huge Prevention Studies

By Eric T. Rosengren

The American Cancer Society's cancer
prevention studies have been

designed to advance our understanding of
environmental, genetic, and lifestyle factors
that may cause or prevent cancer.

For more than 60 years, the Society has

attempted to increase the incidence of

cancer with the help of a major study.

The American Cancer Society

(ACS) launched a major study in 1959 to

investigate the causes of cancer, and the

study has since grown to include over 500,000

participants.

The study has produced thousands of papers

on the causes and prevention of cancer,

and its findings have helped shape public

health policies and medical practices.

The ACS study is continuing to grow,

and new findings are expected to be

published in the coming years.

The study is expected to cost

about $1.5 billion over its

duration, which is expected

to last for at least 20 years.

High-risk factors include

personal factors such as

smoking, obesity, and

alcohol consumption.

The study is designed to

recruit a diverse population

of participants to ensure

that the findings are

representative of the

general population.

The study is expected to

include at least 800,000

participants and will

continue for at least 20 years.

The study is designed to

collect detailed information

on all aspects of the

participants' lives,

including their diet,

exercise habits, and

medical history.

The study is expected to

produce valuable information

on the causes and prevention

of cancer, which can be used

to develop effective prevention

and treatment strategies.

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Types of CPS-3 Enrollment at Hospitals

- **“Open”** enrollment site
  - Enrollment available to community at-large
  - Wide-scale promotion to the community and within the hospital to staff (requires both ACS and hospital support for outreach)
  - Enrollment “sessions” will take place for a few days
  - Implementation requires 4-5 months

- **“Closed”** enrollment site
  - Enrollment available to employees only
  - Hospital sites with at least 750 employees
  - Internal promotion only (by hospital)
  - Generally, single or two-day enrollment session
  - Implementation requires 3-4 months
Host Hospital’s Role

- Name a lead staff person to coordinate with ACS staff
- Provide space for individuals to enroll (large auditorium, conference center, etc.)
- Promotion to employees and constituents (using template materials provided by ACS)
- Provide cost-free parking for participants and ACS staff, phlebotomists, etc.
- Assist with day-of volunteers
American Cancer Society’s Role

- Provide all study materials and promotional templates
- Onsite training and oversight
- Create appointment scheduling website
- Manage all direct communication with study participants after the initial enrollment
- Work with hospital partner on community-wide promotion
Other Logistical Considerations

- Phlebotomy
  - Quest Diagnostics, Inc. contracted nationally for CPS-3 blood collection, transport, and processing
  - Staff trained to follow CPS-3 scientific protocol to maintain standardized process across venues
  - Hospital must be willing to have Quest onsite
  - Phlebotomy staffing coordinated from NHO

- Confidentiality issues

- Institutional Review Board

- Commission on Cancer (CoC) standards
Protection of CPS-3 Participants

- Approval and oversight by Emory University Institutional Review Board
- Data are de-identified by assignment of unique study ID
- Limited access to study data by authorized research personnel
- All CPS-3 research staff, volunteers and vendors sign confidentiality forms
- Participant identity will never be disclosed within or outside ACS, without participant approval
- Individual results will not be shared with participants or their family, physicians, employers, insurance companies or other third parties
- Privacy and confidentiality are addressed on the CPS-3 informed consent form

**Note:** Employees should use personal email if concerned about the possibility of corporate email monitoring
Where Are We Now?

- Nearly 110,000 participants in 34 states plus Puerto Rico
CPS-3: Benefits Beyond the Science

- Allows people to participate in cancer research
- Empowers survivors and their caregivers
- Enhances community relationships and presence
- Brings wide-scale media and publicity to facility and to research
Cancer Prevention Study-3:
Leading the Way to a World with Less Cancer & More Birthdays…

“I have already signed up to participate myself, as this study offers a unique opportunity to be a part of some of the most pioneering medical advances of our time.”
Dr. John Seffrin, American Cancer Society National CEO
Call to ACTION

- Visit [www.cancer.org/cps3](http://www.cancer.org/cps3) to learn more or call 1-888-604-5888
- Support the Maryland Relay For Life sites offering CPS 3
- Website will maintain updated location information for community events

“The opportunity to support a project like the American Cancer Society’s Cancer Prevention Study-3 is a natural fit with the vision and values of Quest Diagnostics.” - Quest Diagnostics national vice president