



"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**

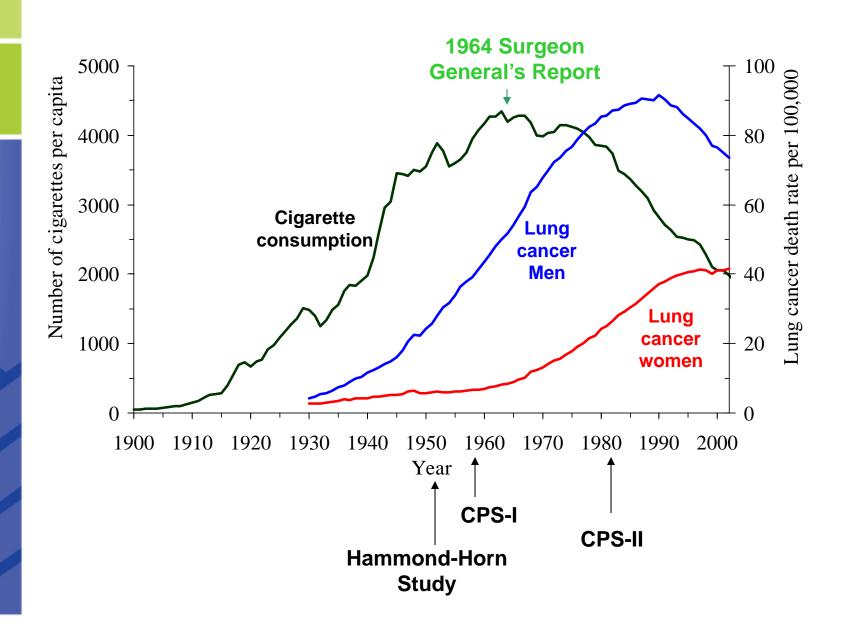
The Society has been conducting large-scale, nationwide population studies to examine the causes of cancer and how to prevent it for nearly 60 years.

	Hammond-Horn	<u>CPS-I</u>	CPS-II
Years	1952-55	1959-72	1982-
Participants	188,000	1,000,000	1,200,000
Sex	Men	Both	Both
Volunteers	22,000	68,000	77,000
States	9	25	50
Cancer endpoints	Mortality	Mortality	Mortality (& incidence)
Research Emphases	Smoking	Smoking, obesity	Multiple

# The Researchers at AMA Conference



# **Tobacco Control and Mortality**



# **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)

# The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812

APRIL 24, 2003

VOL. 348 NO. 17

#### Overweight, Obesity, and Mortality from Cancer in a Prospectively Studied Cohort of U.S. Adults

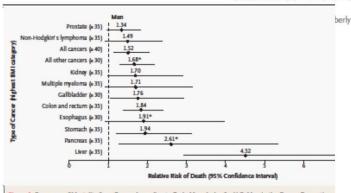


Figure 1. Summary of Mortality from Cancer According to Body-Mass Index for U.S. Men in the Cancer Prevention Study II, 1982 through 1998.

For each relative risk, the comparison was between men in the highest body-mass-index (BMI) category (indicated in rentheses) and men in the reference category (body-mass index, I.8.5 to 24.9, Asterisks indicate relative risks for m who never smoked. Results of the linear test for trend were significant (Ps0.05) for all cancer sites.

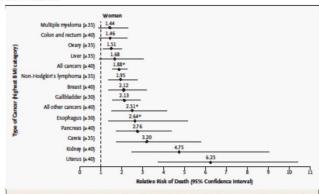
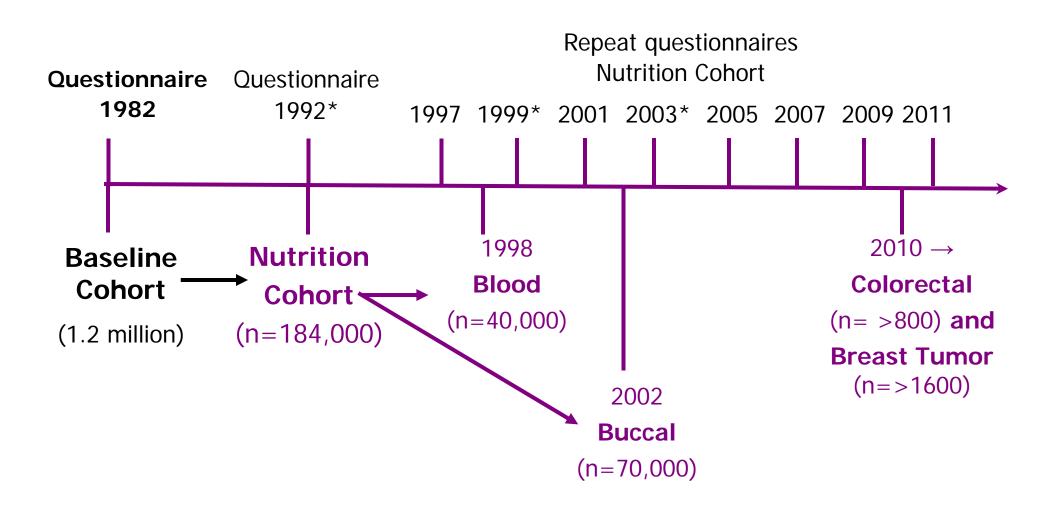


Figure 2. Summary of Mortality from Cancer According to Body-Mass Index for U.S. Women in the Cancer Prevention Study II, 1982 through 1998.

For each relative risk, the comparison was between women in the highest body-mass-index (BMI) category (indicated in parentheses) and women in the reference category (body-mass index, 18.5 to 24.9). Asterists indicate relative risks for women who never smoked. Results of the linear test for trend were significant (Pk.0.05) for all cancer sites.

#### **Enhancements to the CPS-II Data Resources**



<sup>\*</sup> Diet Questionnaires

#### **Diet and Cancer**

ORIGINAL CONTRIBUTION

#### Meat Consumption and Risk of Colorectal Cancer

Ann Chao, PhD
Michael J. Thun, MD, MS
Cari J. Connell, MPH
Marjorie L. McCullough, ScD
Eric J. Jacobs, PhD
W. Dana Flanders, MD, ScD
Carmen Rodriguez, MD, MPH
Rashmi Sinha, PhD
Eugenia E. Calle, PhD

Context Consumption of red and processed meat has been associated with colorectal cancer in many but not all epidemiological studies; few studies have examined risk in relation to long-term meat intake or the association of meat with rectal cancer.

Objective To examine the relationship between recent and long-term meat consumption and the risk of incident colon and rectal cancer.

Design, Setting, and Participants A cohort of 148610 adults aged 50 to 74 years (median, 63 years), residing in 21 states with population-based cancer registries, who provided information on meat consumption in 1982 and again in 1992/1993 when enrolled in the Cancer Prevention Study II (CPS II) Nutrition Cohort. Follow-up from time of enrollment in 1992/1993 through August 31, 2001, identified 1667 incident colorectal cancers. Participants contributed person-years at risk until death or a diagnosis of colon or rectal cancer.

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

Carmen Rodriguez, Marjorie L. McCullough, Alison M. Mondul, Eric J. Jacobs, Ann Chao, Alpa V. Patel, Michael J. Thun, and Eugenia E. Calle

Epid eniology and Surveillance Research, American Can or Society, Atlanta, Georgia

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

Marjorie L. McCullough, Carmen Rodriguez, W. Ryan Diver, Heather Spencer Feigelson, Victoria L. Stevens, Michael J. Thun, and Eugenia E. Calle

Epidemiology and Surveillance Research, American Cancer Society, Atlanta, Georgia

#### ORIGINAL INVESTIGATION

#### Association of Alcohol Intake With Pancreatic Cancer Mortality in Never Smokers

Susan M. Gapstur, PhD, MPH; Eric J. Jacobs, PhD, MS; Anustla Deka, MPH; Marjorie L. McCullough, ScD, RD; Alpa V. Patel, PhD, MPH; Michael J. Thun, MD, MS

# 2006 Guidelines on Nutrition and Physical Activity for Cancer Prevention

# Handly book closed and the property of the pro

#### **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<sup>nd</sup> 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.

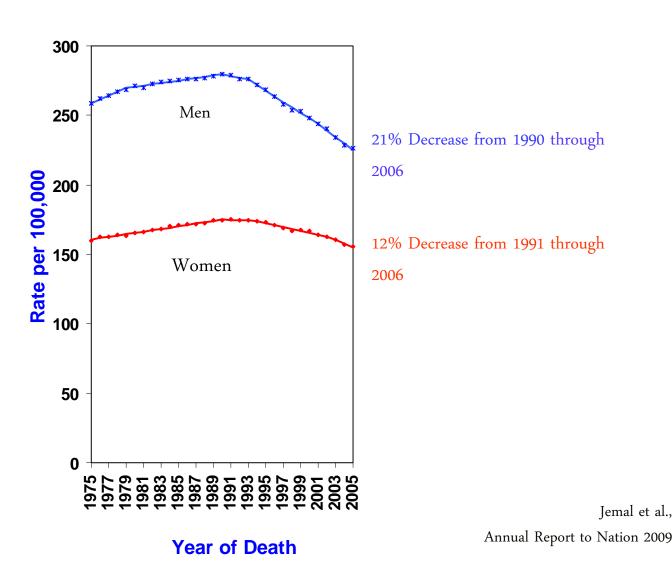
#### Obesity, nutrition, and physical activity

- 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



# **Cancer Prevention Study – 3**



	Hammond-Horn	CPS-I	<u>CPS-II</u>	CPS-3
Years	1952-55	1959-72	1982-	2006-
Participants	188,000	1,000,000	1,200,000	300,000
Sex	Men	Both	Both	Both
Volunteers	22,000	68,000	77,000	25,000
States	9	25	50	35
Cancer endpoints	Mortality	Mortality	Mortality (& incidence)	Mortality & incidence
Research Emphases	Smoking	Smoking, obesity	Multiple	Multiple

# Changing the Course of Cancer...

The 3<sup>rd</sup> Cancer Prevention Study (CPS-3) will...

- Examine a wide spectrum of lifestyle, behavioral, environmental, and genetic factors in relation cancer risk, survival, and mortality
- Identify (or validate) early markers of disease

# Scientifically, Why Do We Need a 3<sup>rd</sup> 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)</li>
  - 33% overweight (25-<30)
  - 30% obese (30+)
- Smoking status
  - 64% never
  - 7% current
  - 25% former

# **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

SEPTEMBER 15, 2008.



#### News

for 2009



cus on Health >> ledia Contacts >>

Madia Photos >>

#### Johnson Memorial to host only Cancer Prevention Study in Central Indiana

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 65 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.

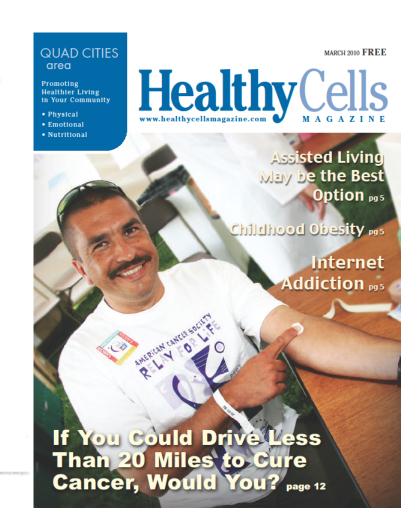
The ultimate goal is to enroll 500,000 adults from various racial/ethnic backgrounds from across the U.S. The purpose of CPS-3 is to better understand the lifestyle, behavioral, environmental and genetic factors that cause or prevent cancer and to ultimately eliminate cancer as a major. health problem 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 Al-American Relay, Pacesetter 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 Enos Dotson at relayfamily @att.net. For more information about CPS-3, visit the ACS website at www.cancer.org/cps3.



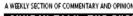
# **Media and Publicity**

Newsweek



The goal of one study, which will follow 500,00 to figure out who gets cancer and who doesn't,

Claudia Kalb NEWSWEEK Updated: 12:27 PM ET Mar 8, 2008



#### SUNDAY TALK: THE PUBLIC SPEAKS

### Cancer Prevention Study deserves support



#### Tracking Cancer Nationwide Dr. Alpa Patel

Strategic Director, Cancer Prevention Study, American Cancer Society // Atlanta, Georgia

A lpa Patel wants to know how cancer is linked to our diet and exercise routines—and what we need to do to keep ourselves healthy and cancer-free.

Patel is the strategic director of the American Cancer Society's Cancer Prevention Study. Previous population surveys helped prove links between cancer and cigarette smoking, secondhand smoke and obesity. Now Patel is signing up 500,000 U.S. residents between the ages of 30 and 65 who've never had cancer for a study that will track them for 20 to 30 years.

Susan Stitt is sick of a" cancer. Stitt's mother I colon cancer. Stitt cou Cancer Society's Cana nationwide, Stitt, 45, h about her medical hist cancer, she says, "I'll !

We should all be so de \$200 billion a year in r significantly and new t don't know about why causes lung cancer; of cancer. Now research treatments.

That means you can d researchers need 500. cancer. (They've got 2 20 years, is to figure o be a major focus. If pe likely to exercise? Res The results may give s healthier neighborhoo colon cancer; CPS-3 v medications. Unlike ex provide a direct benefi ones and definitely to

Many prevention trials of developing it (you're endometrial cancer in Center in Houston (mx setting? telephone cou participation will help of

One day, cancer vacci market could help mus trials (cancer.gov) to to acid-reflux drug preven progressing? Does ca patients who've alread the NCI's Dr. Leslie Fo

The key may be identi Ernest Hawk. Ultimate cardiologists prevent h



PAGE 10 / MAY 25, 2007

#### ACS Launches Third-Generation of Its Huge Prevention Studies

By Eric T. Rosenthal.

n an era of waning federal support for carnoer trials of the therapeutic and prevention varieties, the American Cancer Society is launching what it says may be "the last best chance" to undertake a large-scale population research study on the genetic and environmental factors causing and prevening cancer in the United States.

ACS hopes to entroll 500,000 geographically and ethnically diverse adules ago 30 to 65 to 14s Cancer Provention Study-3 (CPS-3) through 2011, and follow them for at least 20 years.

Eligibility includes never having been diagnosed with cancer and a longterm willingness to commit to the study, which will mean completing somewhat lengthy questionnaires about every other year.

The study hopes to accrue a mirimum of 25% non-white participants, with a ratio of 40% men to 60% women.

But what is somewhat significant ahous CPS-3 is its method and vorue for recruitment

What is somewhat significant about CPS-3 is its method and venue for recruitment.

#### More than Half a Century Dedicated to Prevention Studies

cer prevention studies have been ling), which studied 1 million men designed to advance understanding of lifestyle, anytronmental, and corres-

For more than half a censury, the Society has followed the health outcomes of each study's recruits to determine how the outcomes relate to collected exposure data.

The Hammond-Horn Study was conducted from 1952-1955, and studied 188,000 American males to examine the effect of cigarette smokthe on cancer and other disease death

It set the methodology for CP\$-1

questionraire at the oversight events.

have their waists measured, and pro-

With NCI's recent 10% cuts of its

cooperative group clinical trials, and

tion Study to Evaluate Letrozole and

Raloxifene (STELLAR), this is a large

prospective prevention study spon-

sored by a nonprolit, non-governmen-

vide a small blood sample.

The American Cancer Society's cars. (1959-1972) and CPS-II (1982-ongo-sive body weight on cancer occur-

and women, and 1.2 million men and women, respectively, to assess variic factors that may cause or prevent ous environmental and lifestyle exposures that might increase or decrease cancer risk.

A still ongoing CPS-II Nutrition Cohort study concurrently enrolled 185,000 CPS-II participants to look at how various behavioral, environmental, and genetic exposures affect cancer risk

Amone the important findings of these studies:

■ Links besween dearene smok ing and lung cancer.

Washington State.

decision to delay indefinitely the Indiana, Michigan, and Illinois, and

National Surgical Adjuvant Breast and from 2009 through 2011 recruitment

Bowel Project's breast cancer preven- will be held at some 250 to 300 sites in a

jump start to the project by enrolling

the first 2,000 participants.

rence and death.

- The impact of hormones, physical activity, diet, medications, vitamins, and other factors on carrow risk. Air pollution's effect on car-
- diopulmorary conditions. ■ The link between aspirin and
- reduced colon cancer risk. . The link between postmeno-
- pausal hormone-replacement thorapy and cenain gynecological and breast
- The link between diabetes and pancreatic and colon cancer.
- The link between physical activity and lowered risk of breast, colon, ■ The significant impact of exces- and aggressive prostate cancers.

Interested individuals agreeing to in Florida, Georgia, South Carolina, cause they had a large percentage of consent to participate will fill out a brief North Carolina, Connecticut, Massaminority participants, or had a more chuseus Texas Missouri Colorado stable volunteer structure. College New Mexico, Arizona, California, and events were eiten less consideration since they might not yield a large In 2008, enrollment will take place enough percentage of age-eligible peoat 125 sites, with the addition of Ohio,

These sites will be the only places to sign up for the study this year, but Dr. Patel said it was not necessary for study participants to take part in the A trial program in 2006 provided a Relay for Life itself, just to physically be there to register.

Once enrolled, participants would r barro to fill out a 45 to 60 mt

# O volunteers

#### Long-term research seeks clues to causes

SUNDAY, FEBRUARY 28, 2010 AMERICAN PRESS E5

BY ROBIN ERB

The American Cancer Society is looking for a half-million volunteers for a longtime study into what causes cancer. It would mean years of anvering questionnaires about things like the foods you eat, the way you use your cell phone and where you grew

So why would anyone sign up for that kind of grilling?

er at a Relay for Life event in 2008.

Deena Gardner's motivation smiles at her every day - photos on her desk of her mother. Andrea Burnette

Ashford was just 47 when she died in 2008 of uterine cancer.

"When my mother was first diagnosed, it was complete helplessness; 'I can't make this go away,' "said Gardner. 29, who, after her mom's death. took a job as a community representative at the Cancer Society's Southfield office.

The information she provides for the study might offer clues that may one day help prevent or even cure

The biggest need is for minority participants in the study. With about 80,000 recruits so far, the study lags in representation of people of color. It has fewer than 16% nonwhite participants; its goal is 25% - even though some cancers are more prev alent among people of certain racial



"I'm asking people to be involved with these ... studies for their grandkids," Brawley said.

The commitment to the decades-

long study might make some hesitate

especially suspicious of sharing such

information, said Dr.

Otis Brawley, the Can-

cer Society's medical

director and a former

about such things as

Answering questions

and many African Americans are

A 28-page initial survey in this fourth large-scale study will be followed every two years by shorter questionnaires. Participants must be between 30 and 65 years old, be cancer-free and willing to provide a blood

Prospective participants can enroll during select Relay for Life events. Relay for Life of Detroit, at Marygrove College, 8425 W. McNichols, Detroit, and Relay for Life Brandon/ Ortonville, at Harvey Swanson Middle School, 209 Varsity Drive, Ortonville,

For more information or to find other Relays with enrollment events call 888-604-5888 or visit

www.cancer.org/cps3.



A photo of Deena Gardner with her moth-Relay for Life luminaries, bags with a lit

■ CONTACT ROBIN ERB: 313-222-2708 OF RERBØFREEPRESS.COM

# **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

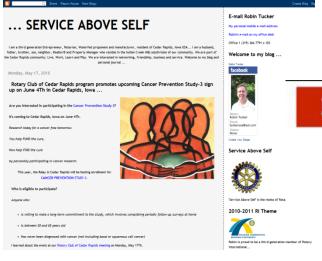


Channels

Videos

CPS I Participant Shares Her Story





Newsweek

#### **Cancer Studies Want You!**

The goal of one study, which will follow 500,000 people for years, is to figure out who gets cancer and who doesn't, and why.

# **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 <u>www.cancer.org/cps3</u> 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