1976-2006

PROGRAM and ABSTRACTS

February 26-28, 2006

The Hyatt Regency- Bethesda
Bethesda, Maryland

PROGRAM
and
ABSTRACTS

30th Annual Meeting

American Society of Preventive Oncology

February 26-28, 2006

The Hyatt Regency - Bethesda
Bethesda, Maryland

American Society of Preventive Oncology
30th Annual Meeting

Program Co-Chairs:

Frank L. Meyskens, MD
University of California-Irvine Chao Family Comprehensive Cancer Center

Stephen Hursting, PhD, MPH
University of Texas – Austin

This meeting is sponsored by The American Society of Preventive Oncology, The Cancer Research and Prevention Foundation, The American Cancer Society, Bristol-Myers Squibb Company, and a conference grant from the National Institutes of Health/National Cancer Institute.

The **American Society of Preventive Oncology** is an active and growing organization that is striving to: 1) promote the exchange and dissemination of information and ideas relating to cancer prevention and control; 2) identify and stimulate research areas in cancer prevention and control; and 3) foster the implementation of programs in cancer prevention and control.

Meetings of the **American Society of Preventive Oncology** are organized for professionals in clinical, educational or research disciplines who appreciate the challenges of a multidisciplinary scientific forum and who are committed to a comprehensive approach to cancer prevention and control.

Special Acknowledgements

The ASPO Executive Committee offers special thanks to Program Co-Chairs, **Drs. Frank Meyskens and Stephen Hursting** , for their extraordinary commitment in facilitating the development of the program for this meeting, and to the entire 2006 ASPO Program Committee for their hard work on the program.

ASPO – 2006

Executive Committee

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Shine Chang, PhD
UT M.D. Anderson Cancer Center

Melissa Bondy, PhD
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Mary Ropka, PhD
Fox Chase Cancer Center

Li Li, MD, PhD
Case Western Reserve University

Kathleen Wolin, ScD
Northwestern University

Peter Greenwald, MD, DrPH
National Cancer Institute

NEXT YEAR . . .

The 31st Annual Meeting of the American Society of Preventive Oncology will be held:
March 2-4, 2007 at the UT M.D. Anderson Cancer Center and the Marriott Medical Center Hotel, Houston, Texas

***Please note this is a Friday through Sunday meeting format**

PLEASE HELP US PLAN FOR THE FUTURE. . .

At the close of the meeting please take a few minutes to complete the questionnaire at the back of this program. This will help future Program Committees and conference staff to better meet your professional and logistical needs.

ASPO Condensed Meeting Program

(Greater detail is available in the following pages)

Sunday, February 26

8:00 am - 5:00 pm	**Registration**
8:00 am - 12:00 pm	**General Meeting for NCI/K07 Fellows** (by invitation only)
12:00 - 4:00 pm	**New Investigators' Workshop** Organizer: **Alfred I. Neugut, MD, PhD** Columbia University School of Public Health (Open only to those who have been notified of their selection)
12:00-3:00pm	**ASPO Executive Committee Working Lunch meeting**
1:30pm- 4:00pm	**Meeting of NCI Training Directors**
2:00 pm - 4:00 pm	**Career Development for Junior Faculty, Junior Researchers, & Trainees** "A Career in Cancer Prevention & Control: How do I get there? And then what?"
4:30 pm - 6:00 pm	**Cancer Center Associate Directors/Cancer Prevention & Control**
6:00 – 10:00pm	**ASPO 30th Annual Meeting Gala Dinner**

Monday, February 27

7:00 am - 5:00 pm	**Registration**
7:15 am - 8:45 am	**Study Group Breakfast (**I. Molecular Epidemiology and II. Tobacco Interest Groups)
9:00 am	**Welcome: ASPO President Melissa Bondy, and Program Co-Chairs**
9:30 am	**Distinguished Achievement Awardee Remarks** Frank L. Meyskens, MD, University of California-Irvine
10:00 am	Break
10::15 – 11:45 am	**SYMPOSIUM: *Vitamin D and Cancer*** Co-Chairs: **Stephen Hursting, PhD, MPH, and James Marshall, PhD**
12:00 pm - 1:30 pm	**Lunch on Your Own/Poster Set-up**
12:00 pm – 1:30 pm	**Career Development Seminar for Junior Faculty, Junior Researchers & Trainees** "Making the Most of Your Mentors"
1:30 – 3:00 pm	**SYMPOSIUM: *Biomarkers: Successes and Challenges*** Co-Chairs: Frank Meyskens, MD and Mary Daly, PhD
3:00pm	Break
3:15-4:45 pm	**Plenary Paper Session**
4:45 – 5:15 pm	**ASPO Business Meeting**
6:00 - 8pm	**Poster Session and Reception**
7:45 pm	**Presentation of "Best Poster" Award**
7:45 pm	**Presentation – 2006 CRPF/ASPO Cancer Prevention Research Fellowship**

Tuesday, February 28

7:00 am - 3:00 pm	**Registration**
7:15 – 8:45 am	**Concurrent Study Group Breakfasts** (I. Behavioral Oncology, and II. Chemoprevention and Diet & Nutrition)
9:00 am	**Joseph W. Cullen Memorial Award Lecture: Gary Giovino, PhD, MS,**
10:00 am	Break
10:15-11:45 am	**SYMPOSIUM: *Advances in Vaccine Approaches to Cancer Prevention*** Co-Chairs: Peter Greenwald, MD, DrPH, and W. Thomas London, MD
12:00 – 1:00 pm	**Lunch** (on your own**)**
1:15 – 2:45 pm	**Two Concurrent Paper Sessions**
2:45 pm	Break
3:00 – 4:30pm	**SYMPOSIUM: *New Approaches to Nicotine Addiction*** Co-Chairs: Margaret Spitz, MD, and Ellen R. Gritz, PhD
4:30 pm	Conclusion of the Meeting

Please see list of exhibitors at back of program

ASPO 2006 - Program Details

Sunday, February 26

8:00 am -- 5:00 pm **Registration**
Meeting Room Foyer

8:00 am – 12:00 pm **Sixteenth Annual Special Meeting** of Grantees, Trainees, and
Cabinet/ Judiciary Fellows in Cancer Prevention, Control, Behavioral and Population Sciences (by invitation only)

7:30-8:00am **Registration and Continental Breakfast**

9:05am Break

11:25
Cabinet/ Judiciary **Breakout Session I**

Old Georgetown **Breakout Session II**

12:00 – 3:00 pm **ASPO Executive Committee Working Lunch**
Embassy/Patuxent

1:30 – 4:30 pm **NCI Training Directors Meeting**
Cabinet/ Judiciary

12:00 pm -- 4:00 pm **New Investigators Workshop** -- (Open only to accepted applicants)

Executive Boardroom

Organizers: **Alfred I. Neugut, MD, PhD**
Columbia University Mailman School of Public Health &
Judith Jacobson, DrPH
Columbia University Mailman School of Public Health

Workshop Faculty: **Wendy Demark-Wahnefried, PhD**
Duke University Medical Center
Mack Ruffin, MD, MPH
The University of Michigan
Bruce Trock, PhD
Johns Hopkins School of Medicine

NIW Workshop Participants:

Melinda Kovacic, PhD, MPH
National Cancer Institute
Susan Olivo-Marston, MD, PhD
National Cancer Institute
Amy McQueen, PhD
University of Texas – Houston
Karen M. Mustian, PhD
University of Rochester
Levi Ross, PhD
Florida A & M University
Michael E. Scheurer, PhD
UT M.D. Anderson Cancer Center
Menghua Tao, MD
UC- Los Angeles
Lina Titievsky, MPH
Columbia University

2:00 pm – 4:00 pm ***Haverford*** **Career Development for Junior Faculty, Junior Researchers & Trainees**

"A Career in Cancer Prevention & Control: How do I get there? And then what?"

This session will feature Cancer Prevention & Control researchers at different stages of their career in a variety of employment settings. This ***interactive*** forum will feature brief introductions by panelists followed by ample time for panelists to provide personal insight into audience questions on a range of topics including (but not limited to): determining whether a position is right for you, negotiating your first position, preparing early for tenure and promotion, balancing teaching, research and service, finding the right mentor(s), strategies for applying and getting grants, and more. Panelists will include:

Kimberly S. Clay, PhD, MPH, MSW, University of Alabama-Birmingham
Stephen D. Hursting, PhD, MPH, UT-Austin/M.D. Anderson Cancer Ctr
Lawrence H. Kushi, ScD, Kaiser Permanente-Northern California
Sandra Millon Underwood, PhD, RN, FAAN, UW-Milwaukee

4:30 pm - 6:00 pm ***Haverford*** **Cancer Center Associate Directors for Cancer Prevention & Control**

6:00 – 10:00 pm **ASPO 30th Anniversary Gala Dinner**

Waterford/Lalique

ASPO 2006 -- General Session

Monday, February 27

7:00 am – 5:00 pm **Registration**

Haverford Foyer

7:15 - 8:45 am **Hot Topics Breakfast Sessions** (two sessions)

Waterford/Lalique

7:15 – 8:45 am ***Molecular Epidemiology Interest Group Breakfast:***
A Discussion of Appropriate Access and Bioinformatic Systems for Population Science Biorepositories
Co-Chairs: **Peter Shields, MD** and **Shannon M. Lemrow, PhD**

7:15 – 7:30 am "An overview of the 1st Generation Guidelines for NCI-Supported Biorepositories" **Shannon M. Lemrow, PhD**, National Cancer Institute, http://biospecimens.cancer.gov/index.asp

7:30 – 7:55 am "caBIG and Bioinformatics Systems that Support Population Science Biorepositories" **Ian M. Fore, D. Phil**, National Cancer Institute, https://cabig.nci.nih.gov/

7:55 – 8:20 am "Key Components of Access Policies Governing Population Science Biorepositories" **Graham A. Colditz, MD, Dr.PH**, Harvard Medical School

8:20 – 8:45 am Moderated Discussion

Cabinet/ Judiciary ***II. Tobacco Interest Group Breakfast:***
Presenter: **Alexander Prokorhov, MD, PhD,** UT M.D. Anderson Cancer Center
"Tobacco Prevention and Cessation in 21st Century's Youth."

Presenter: **Caryn Lerman, PhD,** University of Pennsylvania
"Tobacco Dependence Treatment: From Mouse to Man"

9:00 am **Welcome**

Haverford/ Baccarat
Melissa Bondy, PhD
UT M.D. Anderson Cancer Center, ASPO President
Frank L. Meyskens, MD
UC – Irvine Chao Family Cancer Center, 2006 ASPO Program Co-Chair
Stephen Hursting, PhD, MPH
UT – Austin, 2006 ASPO Program Co-Chair
David Schottenfeld, MD, MSc (ASPO President 1987-89)
University of Michigan
Joseph Fraumeni, MD (ASPO President 1981-83)
National Cancer Institute

9:30-10:00 am **Distinguished Achievement Award Remarks**
Frank L. Meyskens, MD
University of California – Irvine Chao Family Comprehensive Cancer Center

The Distinguished Achievement Award is sponsored by the American Cancer Society

10:00 am Break

10:15 am- 11:45 am **Symposium: Vitamin D and Cancer**
Haverford/ Baccarat Co-Chairs: **Stephen Hursting, PhD, MPH & James Marshall, PhD**

"Epidemiology of Vitamin D and Cancer"
Ed Giovannucci, MD, ScD, Harvard University

"Modulation of Hormone-Dependent Cancers by Vitamin D Regulated Pathways"
JoEllen Welsh, PhD, University of Notre Dame

"*Vitamin D as an Anti-Neoplastic Agent: Pre-clinical and Clinical Studies"*
Candace S. Johnson, PhD, Roswell Park Cancer Institute

12 – 1:30 pm **Lunch on your own (Poster Set-up in Waterford/Lalique)**

12 – 1:30 pm **Career Development for Junior Faculty, Junior Researchers**
Cabinet/Judiciary **and Trainees**

"Making the Most of Your Mentors"
Navigating an academic career is often challenging, and having a quality mentor available for guidance can make life a little easier. Presentations and discussion will cover various aspects of the mentor-mentee relationship, including: making the transition from mentee to mentor, identifying potential mentors, expectations for the mentor and mentee, and practical tips for maximizing a mentoring relationship. Panelists will include:
Graham Colditz, MD, DrPH, Harvard School of Public Health
Shine Chang, PhD, UT M.D. Anderson Cancer Center

Sponsored by the Cancer Research and Prevention Foundation
(100 box lunches will be available on a first-come basis)

Monday cont.

1:30 – 3:00 pm **Symposium: *"Biomarkers: Successes and Challenges"***
Haverford/ Baccarat Co-Chairs: **Frank Meyskens, MD, & Mary Daly, MD, PhD**

"Molecular Approaches to Biomarker Discovery and Development"
Carl Barrett, MD, PhD, Novartis

"Innovative Designs for Incorporating Biomarkers in Cancer Prevention Studies"
J. Jack Lee, PhD, UT M.D. Anderson Cancer Center

"Limitations of Biomarkers: Assessments in Cancer Prevention Studies"
Eva Szabo, MD, National Cancer Institute

3:00 pm **Break**

3:30 – 4:45 pm **Plenary Paper Session**
Haverford/ Baccarat Chair: **Mary Ropka, PhD**, Fox Chase Cancer Center

3:30pm **Phuong L. Mai, MD, MS**
University of Southern California
"Physical Activity and Colon Cancer Risk in the California Teachers Study"

3:45 pm **Mary Beth Terry, PhD**
Columbia University
"Cyclin E Overexpression and Breast Cancer Among Young Women"

4:00 pm **Judith S. Jacobson, DrPH, MBA**
Columbia University
"Barriers to Minority Participation in a Breast Cancer Chemoprevention Trial"

4:15 pm **Amy Berrington de Gonzalez, DPhil, MSc**
Johns Hopkins University
"Lung Cancer Mortality Following Low-Dose Helical CT Screening: Estimated Radiation Risks and Mortality Benefits"

4:30 pm **Michael E. Scheurer, PhD, MPH**
UT M.D. Anderson Cancer Center
"Antihistamine and Anti-inflammatory Drug Use Among Glioma Cases and Controls"

(See abstracts on following pages)

4:45 pm – 5:15 pm **ASPO Business Meeting**
Haverford/Baccarat All registered meeting attendees are encouraged to attend.

6:00 pm – 8:00 pm **Poster Session & Reception**
Waterford/Lalique

7:45 pm **Presentation of "Best Poster" Award**

7:45 pm **Introduction of 2006 Recipient of the Cancer Prevention Research Fellowship**
Carolyn Aldige', President, Cancer Research and Prevention Foundation

This Fellowship is sponsored by the Cancer Research and Prevention Foundation and the American Society of Preventive Oncology, and is funded by the Cancer Research and Prevention Foundation.

Phuong L. Mai, MD, MS **3:30 pm**	**Mary Beth Terry, PhD** **3:45 pm**
Physical Activity and Colon Cancer Risk in the California Teachers Study (CTS). Mai P, Sullivan-Halley J, Bernstein L, and the California Teachers Study Investigators. Purpose: To examine the association between recreational physical activity and invasive colon adenocarcinoma among women enrolled in a prospective cohort study. Methods: 120,147 CTS participants residing in California and ages 20-84 years with no prior history of colon cancer were included in the analyses. Three hundred nine-five were diagnosed with invasive colon cancer between 1996 and 2002. The relative risks associated with lifetime recreational physical activity were estimated using multivariable Cox proportional hazards regression models. Results: Recreational physical activity was not associated with colon cancer risk in the cohort overall. However, physical activity reduced colon cancer risk among post-menopausal women who had never taken estrogen or combined hormone therapy. Women who reported an average lifetime moderate or strenuous recreational physical activity (from high school through age 54 years) of at least 4 hrs/wk/yr had 48% lower colon cancer risk (relative risk 0.52, 95% confidence interval 0.31-0.85) than women with a lifetime average of less than 0.5hr/wk/yr. Risk was not reduced among postmenopausal women with a history of hormone therapy use. We observed no effect modification by age, smoking status, level of folate intake, or body mass index. Summary: These data suggest that lifetime recreational physical activity protects against colon cancer in post-menopausal women who have not taken hormone therapy. Hormone therapy users benefit from a lower colon cancer risk associated with hormone therapy use, but recreational physical activity does not appear to reduce risk further among these women.	Cyclin E Overexpression and Breast Cancer Among Young Women. Terry MB, Gammon MD, Zhang FF, Memeo L, Mansukhani M, Schoenberg JB, Brinton LA, Hibshoosh H. Most breast cancer risk factors are modest (< 2-fold) making it difficult to rule out bias. One explanation for the modest associations is that breast tumors are heterogeneous. Laboratory and clinical data point to different phenotypes characterized by tumor markers such as p53, HER2neu, estrogen receptor and progesterone receptor status, and cell cycle control genes such as Cyclin E and Cyclin D1. We previously found the relationship between oral contraceptive use and breast cancer risk to be limited to tumors overexpressing Cyclin D1. Using the same study population -- a population-based study of young women under age 45 years in New Jersey -- we analyzed whether oral contraceptives and other suspected and known risk factors for breast cancer were associated with protein overexpression of Cyclin E in breast cancer tissue measured by immunohistochemistry. Unordered polytomous logistic regression was used to estimate the odds ratios (OR) for two case groups -- 1) breast cancer with Cyclin E overexpression (n=156), and 2) breast cancer without overexpression (n=179) -- compared with 462 population-based controls. Multivariate-adjusted odds ratio (OR) for ever use of oral contraceptives (OCs) was 1.5 (95% CI 1.0-2.4) for cases that overexpressed Cyclin E and 1.0 (0.7-1.4) for those with no overexpression. Among, women who started using OCs at least 10 years prior to the reference date, the OR was increased two-fold for breast cancer with Cyclin E overexpression (2.2, 95%CI 1.1-4.3) but not for breast cancer without Cyclin E overexpression (OR = 1.1, 95% CI 0.6-2.3). These findings were independent of Cyclin D1 protein overexpression. If replicated, these findings suggest that early OC use may be associated with the subset of mammary tumors that overexpress Cyclin E.

Judith S. Jacobson, DrPH, MBA **4:00 pm**	**Amy Berrington de Gonzalez, DPhil** **4:15 pm**
Barriers to Minority Participation in a Breast Cancer Chemoprevention Trial. Jacobson JS, Grann VR, Troxel AB, Hershman D, Karp J, Myers C, Neugut AI. Purpose: We studied the association of the Gail model variables with education, insurance status, and race/ethnicity among women who completed a risk assessment form (RAF) for the Study of Tamoxifen and Raloxifene (STAR), a breast cancer chemoprevention trial. Methods: We analyzed the association of Gail model risk factors, education, and insurance with race/ethnicity using chi-square tests and two-sided P-values. We developed logistic regression models of trial eligibility, controlling for the Gail model risk factors, education, and insurance status. Results: Among 823 women who completed an RAF, white women were 10 times as likely as Hispanic women and 45 times as likely as black women to be eligible for STAR. Age at first birth (P=0.04), having an affected first degree relative (P<0.0001), having had a biopsy (P<0.0001), education (P<0.0001), and insurance status (P<0.0001) varied by race/ethnicity; all except insurance status were associated with eligibility when race was excluded from the model. In a model that included race/ethnicity, the same factors remained statistically significant. Summary:Both race/ethnicity and socioeconomic factors were barriers to eligibility for and contributed to low minority participation in a breast cancer prevention trial. The same factors are likely to function as barriers to preventive treatment. Given the relatively high breast cancer mortality among minority women, the race/ethnicity variable should be eliminated from the Gail model formula, and other efforts should be made to improve minority and low-income women's access to breast cancer prevention.	Lung Cancer Mortality Following Low-Dose Helical CT Screening: Estimated Radiation Risks and Mortality Benefits. A Berrington de González Purpose: To estimate the potential risk of radiation-induced lung cancer mortality from annual CT screening for current male smokers, compared to the potential reduction in lung cancer mortality. Methods: Radiation risk models from the Japanese atomic bomb survivors were used to estimate the lifetime risk of radiation-induced lung cancer mortality from a decade of annual CT screening for male current smokers starting at age 55 or 65 years. Lung cancer mortality rates for male current smokers (from the Cancer Prevention Study-II) were used to estimate the number of deaths that could be prevented by each decade of screening, assuming a 0-25% reduction in lung cancer mortality. Results: A decade of screening starting at age 55 or 65 years was estimated to increase lung cancer mortality by 0.4(range=0.2-0.8) and 0.2(range=0.1-0.3) deaths per 1000 men screened, respectively. The estimated number of lung cancer deaths that could be prevented by a decade of screening starting at age 55 or 65 years was 0-7, and 0-14 per 1000 men screened. Summary: Despite uncertainty surrounding the mortality benefits from lung CT screening a number of facilities are already offering this service in the US. These estimates suggest that the benefits will outweigh the radiation risks if the mortality reduction from screening is 3% or more, and that the net benefit would be greater for a decade of screening starting at age 65 than at age 55 years.

Michael E. Scheurer, PhD, MPH
4:30 pm

Antihistamine and Anti-inflammatory Drug Use Among Glioma Cases and Controls
Scheurer ME, Bondy ML, El-Zein R

Purpose: We examined the roles of antihistamine and anti-inflammatory drug use in the development of gliomas considering infections and other inflammatory risk factors. Methods: Data from The University of Texas M. D. Anderson Cancer Center Harris County Adult Glioma Study were used for this analysis. Included in this analysis are 429 glioma cases and 429 population-based controls frequency-matched on age, race, and gender. Controls were selected using random-digit dialing. Logistic regression models were used to examine the effects of antihistamine and anti-inflammatory drug use, as well as other inflammation-associated risk factors among glioma cases and controls. Briefly, each potential covariate was analyzed in univariate models with the outcome. Those significant at the 0.20 level were considered for inclusion in a multivariate model. Results: The use of anti-inflammatory drugs (OR=0.84, 95%CI: 0.61-1.17) and history of shingles (OR=0.55, 95%CI: 0.31-0.96) or asthma/allergies (OR=0.53, 95%CI: 0.37-0.76) appear protective against glioma formation. However, antihistamine use shows a higher risk among cases (OR=1.92, 95%CI: 1.30-2.82). Conclusions: This analysis confirms a protective effect of a history of shingles, and is the first, to our knowledge, to report increased risk with the use of antihistamines. There is also modification of the effect of antihistamines by anti-inflammatory use. More detailed analyses of the different antihistamine drugs will be needed to confirm these findings. It would also be of interest to ascertain any differences in risk according to brain tumor histology

Tuesday, February 28

7:00 am - 3:00 pm **Registration**
Waterford Foyer

7:15 am - 8:45 am **Hot Topics Breakfast Sessions** (Two Concurrent Sessions)

Cabinet/ Judiciary ***Breakfast I: BEHAVIORAL ONCOLOGY & CANCER COMMUNICATIONS Interest Group***

Title: *What Numbers Could Be: The Role of Numeracy in Understanding and Communicating Cancer Risk and Management Information*

Co-Chairs: **Suzanne M. Miller, PhD,** Fox Chase Cancer Center &
Deborah Bowen, PhD, Fred Huchinson Cancer Research Center

Presenters: **Wendy Nelson, PhD/Michael Stefanek, PhD:** NCI Perspectives
Isaac Lipkus, PhD: Tidbits about the Relationship between Numeracy and Cancer Risk Communication
Valerie Reyna, PhD: Understanding the Gist of Risk in Cancer Prevention

This breakfast session is co-sponsored by the National Cancer Institute

Waterford ***Breakfast II: CHEMOPREVENTION Interest Group and DIET AND NUTRITION Interest Group***

Title: *"Neutraceutical Genomics"*
John Milner, PhD, National Cancer Institute

"Diet, Nutrition, ROS, and Melanoma"
Frank Meyskens, MD, UC – Irvine Cancer Center

9:00 – 10:00 am **Joseph W. Cullen Memorial Award Lecture**
Haverford/ Baccarat **Gary Giovino, PhD, MS**
Senior Research Scientist, Roswell Park Cancer Institute
"Hard-Core Smoking, Harm Reduction, and the Future of Tobacco Use in the United States"

The Joseph W. Cullen Award is given annually to memorialize the many contributions of Joe Cullen. Dr. Cullen was an active ASPO member and Program Coordinator for the NCI's Smoking Tobacco and Cancer Program.

10:00 am **Break**

Tuesday cont.

10:15 – 11:45 am
Haverford/ Baccarat

<u>Symposium</u>: Advances in Vaccine Approaches to Cancer Prevention

Co-Chairs: **Peter Greenwald, MD, and W. Tom London, MD**

"HPV Vaccination: A New Promising Strategy for Cervical Cancer Prevention"
Eduardo L. Franco, MPH, DrPH, McGill University, Montreal

"Hepatitis Vaccines and Prevention of Hepatocellular Carcinoma"
W. Thomas London, MD, Fox Chase Cancer Center

"Nicotine Vaccines"
Francis Vocci, PhD, National Institute on Drug Abuse, NIH

12:00 – 1:00 pm **Lunch – on your own**

1:15– 2:45 pm
Haverford/ Baccarat

<u>Two Concurrent Paper Sessions</u>

PAPER SESSION I:

<u>Cancer Epidemiology/Behavioral Science</u>

Chair: **Suzanne Miller, PhD,** Fox Chase Cancer Center

1:15 pm **Sherri Sheinfeld Gorin, PhD**
Columbia University
"Treatment Delay and 5-Year Survival from Breast Cancer Among Multi-Ethnic Women"

1:30 pm **Radoslav Goldman, PhD**
Georgetown University
"MALDI-TOF Analysis of Serum Peptides Associated with Hepatocellular Carcinoma"

1:45 pm **Jane Teas, PhD**
University of South Carolina
"Stress Hormones, Mood, and Exercise"

2:00 pm **K. Michael Cummings, PhD, MPH**
Roswell Park Cancer Institute
"Evaluation of an Intervention to Correct Smokers' Misperceptions About Their Cigarettes"

2:15 pm **Wendy Demark-Wahnefried, PhD**
Duke University Medical Center
"Adherence and Quality of Life in STRENGTH: A Feasibility Study of Home-Based Resistance Training-Endurance Exercise Among Premenopausal Breast Cancer Patients Receiving Adjuvant Chemotherapy"

2:30 pm **Melanie K. Bean, MS**
Virginia Commonwealth University
" Exercise in Elementary School Girls: Baseline Findings from Girls on the Run"

(See abstracts on following pages)

Sherri Sheinfeld Gorin, PhD **1:15 pm**	**Radoslav Goldman, PhD** **1:30 pm**
Treatment Delay and 5-Year Survival from Breast Cancer Among Multi-Ethnic Women. Sheinfeld Gorin S and Heck J Background: Several papers have examined the relationship between treatment delay and survival among patients who are diagnosed with cancer. None has yet relied on a large, population-based dataset to systematically examine 5-year survival among women within different ethnic/racial groups who delay treatment. Method: Subjects were 49,865 female Medicare enrollees age 65 and older who were diagnosed with breast cancer between 1992 and 1999 and identified by the Surveillance, Epidemiology, and End Results (SEER) program. Dates of their health care visits were identified through the linkage of SEER with Medicare claims data. Mortality from breast cancer was assessed through linkage with death certificates. Results: Using the log-rank test for comparing survival curves, non-Hispanic whites ($p<.001$), blacks ($p<.01$), and Hispanics ($p<.05$) with treatment delays 6 months or more had diminished 5-year survival relative to those with less delay. Logistic regression analyses of 5-year survival (with adjustments) revealed that subjects with 6-month delay in treatment had a reduced odds of 5-year survival (adjusted OR 2.52, 95% CI, 1.70-3.73) than those with less delay. Blacks had significantly lessened 5-year survival than women in other races/ethnicities (OR=1.63, 95% CI, 1.38-1.94), but the interaction between race/ethnicity and delay was not statistically significant. Women who were diagnosed at stage 4 (OR=298.01, 95% CI, 197.2-450.4), were older (OR=3.51, 95% CI, 2.92-4.23), unmarried (OR=1.48, 95% CI, 1.34-1.64), and had 3 or more comorbidities (OR=1.53, 95% CI, .13-2.08) predicted reduced 5-year survival. Conclusions: Delay in accessing breast cancer treatment has a clear relationship to survival, among all racial/ethnic subgroups. Rapid access to treatment is recommended for all women with breast cancer.	MALDI-TOF Analysis of Serum Peptides Associated with Hepatocellular Carcinoma. Goldman, R; An, Y; Liao, J; Orvisky, E; Ressom, HW; Varghese, SA; Goldman, L; Drake, SK; Hortin, GL; Loffredo, CA and Abdel-Hamid, M Purpose: Increasing incidence of hepatocellular carcinoma (HCC) in the US has been associated with hepatitis C (HCV) infections. We report a study of HCC in Egypt, a country with an epidemic of HCV and HCC. The goal of our study is to identify serum peptides associated with HCC for early detection and improved classification of the disease. Methods: Serum samples were obtained in collaboration with NCI, Cairo, Egypt. Controls were matched to cases on gender, age, and residence. We developed MALDI-TOF/TOF methods for analysis of serum peptides enriched by denaturing ultrafiltration. Analysis of TOF-MS spectra of 78 HCC cases and 72 controls in the 0.8-5 kDa mass range identified 264 peptides, a subset of which was identified by TOF/TOF sequencing. The abundance of 45 peptides was increased (34) or decreased (11) in patients with HCC. Using newly developed computational methods, we selected 6 peptides that classify the disease with 100% sensitivity and 92% specificity in an independent set of 50 samples. Logistic regression analysis showed that the association of biomarker-candidates with HCC is not substantially altered by age, gender, viral infections, and date of sample collection. Conclusion: Using novel analytical methods, we identified six peptides that classify HCC with high prediction accuracy. These peptides may be useful in examining progression of chronic hepatitis C viral infection to malignancy.

Jane Teas, PhD 1:45 pm	Maansi Bansal Travers, MS 2:00 pm
Stress Hormones, Mood, and Exercise. Teas J, Holland M, Nitcheva D, Ghumare S, Ogoussan K, Dudgeon W, Hand G. Exercise physiology studies have focused primarily on individuals under the age of 50 years, and little is known about the effects of exercise on healthy postmenopausal women. In this study we compared the effects on both stress hormones and mood changes associated with walking for an hour outdoors and indoors. Methods: 19 healthy postmenopausal women who normally exercised at least 3 hours/week were recruited for the study. We compared the effects of an hour of walking exercise done at a comfortable self-determined pace either indoors in a university gym on a treadmill, or outdoors, walking on the university campus. To simulate a normal gym atmosphere, we played similar heavy metal music at the same loudness as music played in two public workout rooms in the same exercise facility. Mood changes were assessed by questionnaires and salivary hormone changes in chronic stress (salivary cortisol) and acute stress (norepinephrine, as indirectly measured by changes in salivary alpha amylase). Results: Subjects reported improved mood (pleased, delighted, happy, and joyful) after walking in both environments. However treadmill walking for an hour was associated with a 67% increase in self-reported anger, compared to a 50% decrease in angry feelings after an hour of outdoor walking ($p=0.037$). Stress hormone responses varied with environment. Alpha amylase was unchanged for women walking outdoors, but 42% higher for the women after walking on a treadmill ($p=0.057$). Cortisol levels were also 25% higher for women after an hour of treadmill walking indoors compared to outdoor walking ($p<0.027$). Conclusions: The exercise environment can be a significant factor in mood and stress hormone responses to exercise and these changes may contribute to understanding how exercise reduces cancer risk.	Evaluation of an Intervention to Correct Smokers' Misperceptions About Their Cigarettes. Bansal MA, Cummings KM, Celestino P, Hyland A, Brown A. Objectives: To evaluate if information customized to a smoker's brand of cigarettes increased likelihood of utilization of that information, assess if knowledge levels about cigarettes are higher among smokers exposed to product-specific information, and estimate if use of the educational materials is related to higher rates of quit attempts and smoking cessation. Methods: 682 adult callers (18+ years) to the New York State Smoker's Quitline between January and March, 2004 were randomized to one of two intervention arms: Group 1 (control) received standard counseling, materials, and starter kit of NRT; and Group 2 received standard counseling, starter kit of NRT, plus information about specific cigarette characteristics (i.e. filters, low tar, nicotine), with a cover targeted to their particular cigarette brand and type. Participants were called back one month later to assess beliefs about cigarette characteristics and current tobacco use. Results: Participants in Group 2 (intervention) who received the brand-targeted materials were significantly more engaged in the materials. Group 2 was also more knowledgeable about particular cigarette characteristics compared to participants in Group 1. There was a statistically significant trend of increasing mean knowledge scores for the Tobacco Constituents index between participants with increased exposure and engagement to the intervention materials ($p=0.017$). Participants who were more engaged in the materials were more likely to have changed smoking behavior and report smoking not at all at time of follow-up. Conclusions: Study results show that smokers are more engaged in materials that are targeted towards their particular brand of cigarettes and are receptive to learning about specific cigarette characteristics.

Wendy Demark-Wahnefried, PhD **2:15 pm**	**Melanie K. Bean, MS** **2:30 pm**
Adherence & Quality of Life (QOL) in STRENGTH: A Feasibility Study of Home-Based Resistance Training-Endurance Exercise Among Premenopausal Breast Cancer Patients Receiving Adjuvant Chemotherapy. Demark-Wahnefried W, Case D, Kraus W, Shaw E Weight gain and sarcopenic obesity are common side effects of adjuvant chemotherapy for breast cancer. While small clinical studies suggest that exercise may prevent adverse body composition changes, most studies have relied on white, upper socio-economic and physically active samples. We undertook a feasibility study aimed at: 1) accruing a representative sample of young breast cancer patients via the Cooperative Community Oncology Program; and 2) determining adherence and measuring effects associated with two versions of a home-based resistance training/endurance exercise program compared to an attention control (AC). All arms received mailed materials and 14 telephone counseling sessions on a calcium-rich diet, another received counseling and additional materials on exercise (EX), and another received the EX intervention + counseling and additional materials on a plant-based, low fat diet (EX-D). The accrual target (N=90) was achieved (16% minority; 21%<12th grade; and 50% sedentary at baseline). Means (sd) for AC/EX/EX-D: Completed Counseling Sessions:12.0(3.0)/10.2(4.7)/11.2(3.5); Completed Self-Monitoring Logs (14 maximum):10.3(3.2)/8.3(5.2)/9.0(3.6); Exercise Sessions/Week (goal of 3.0): NA/3.2(1.1)/2.9(1.2); Minutes/Session (goal of 30): NA/34.8(10.9)/32.0(11.0); and Strength Exercise Dose (100 points maximum): NA/63.3(24.1)/71.6(23.3). Drop-outs (8.9%) came primarily from both exercise arms. While QOL increased over time, no differences were observed between arms. This program achieved its accrual target, experienced low attrition and moderate adherence; data are forthcoming regarding potential physiologic effects.	Exercise in Elementary School Girls: Baseline Findings from Girls on the Run Bean M., Metzler S., Mazzeo S., Wilson D., Fries E. The dramatic increases in adolescent obesity may lead to increased rates of many cancers. Instilling positive habits in youth may help reduce cancer incidence. Little is known about predictors of physical activity (PA) in preadolescent populations, an age when intervention is ideal. Guided by Social Cognitive Theory, this study examines baseline findings from Girls on the Run, a PA intervention for elementary school girls (3rd-5th grades). Participants (M age=9.3) predominantly include individuals from ethnic groups at highest risk for obesity (i.e., 59% African American and 20% Hispanic). Participants report high self-efficacy (M=14.1), positive beliefs (M=23.8), and moderate social influences (M=5.0) for PA. Participants engage in 4.3 days/week of PA on average (about 40 minutes each time), and watch about 3 hours of TV/day. Multiple regression analyses suggest self-efficacy contributes significant amounts of variance in PA at baseline (B=.173) and may be an important target of intervention efforts. Further, belief in the benefits of PA is associated with greater baseline PA intentions (B=.07, p<.001). Discussion will focus on implications for theory and intervention building for this high-risk population.

Tuesday cont.

1:15 – 2:45 pm
Cabinet/ Judiciary

PAPER SESSION II: ***Combined Categories***

Chair: **Electra Paskett, PhD,** The Ohio State University

1:15 pm **Amy Trentham-Dietz, PhD**
University of Wisconsin
"Quality of Life Before and After a Breast Cancer Diagnosis"

1:30 pm **Noel T. Brewer, PhD**
University of North Carolina
"Communicating Breast Cancer Recurrence Risk: The Role of Health Literacy"

1:45 pm **Yu-Ching Yang, MS**
University of California – Los Angeles
"The Role of FGFR4 Polymorphism in the Development and Progression of Bladder Cancer"

2:00 pm **Judy Huei-yu Wang, PhD**
Georgetown University
"Preliminary Evaluation of a Breast Cancer Educational Video for Chinese-American Women: A Community-Participatory Study"

2:15 pm **Sandi L. Pruitt, MPH**
University of Texas - Houston
"Communicating Colposcopy Results: What Do Patients and Providers Discuss?"

2:30 pm **Brian C.-H. Chiu, PhD**
Northwestern University
"A Cohort Study of Body Mass Index, Abnormal Glucose Metabolism and Mortality from Hematopoietic Cancer"

(See abstracts on following pages)

2:45 pm **Break**

3:00 – 4:30 pm
Haverford/ Baccarat

Symposium: *NEW APPROACHES TO NICOTINE ADDICTION*

Co-Chairs: **Margaret Spitz, MD, and Ellen Gritz, PhD**

"Tobacco Addiction and Metabolism: A Role for Pharmacogenetics"
Rachel Tyndale, PhD, University of Toronto

"Disparities in Tobacco Use and Cessation"
David W. Wetter, PhD, UT M.D. Anderson Cancer Center

"Tobacco Smoking and Treatment: A Role for Neuroimaging"
Julie K. Staley, PhD, **Yale** University School of Medicine

Conclusion of Meeting Program

Amy Trentham-Dietz, PhD 1:15 pm	Noel T. Brewer, PhD 1:30 pm
Quality of life before and after a breast cancer diagnosis. A Trentham-Dietz, BL Sprague, R Klein, BEK Klein, KJ Cruickshanks, DG Fryback, JM Hampton, S Moss, M Knudtson, KE Lee. While many reports describe quality of life (QOL) among breast cancer survivors, few compare QOL before and after diagnosis. QOL was examined using data from a cohort that included all women (N=2,762; 83% of eligible) who were residents of Beaver Dam, WI and were aged 43-86 years at the time of a baseline examination during 1988-1990. Participants were re-contacted up to 5 times through 2002 to ascertain QOL using a 4-level overall health question (rated as excellent, good, fair, or poor) and the SF-36. Data on medical and lifestyle factors and demographics were also collected. Of the 130 incident breast cancer cases identified by data linkage with the statewide cancer registry, 43% (N=56) contributed exam data both prior and subsequent to the diagnosis. QOL scores for cases were compared to scores for women without breast cancer matched on age and exam year. The 4-level health question was not sufficiently discriminating; cases were similarly likely as controls to decline in self-reported health (odds ratio, OR, 1.18, 95% CI 0.59-2.35). However, using the 5-level general health question from the SF-36, breast cancer cases were substantially more likely to report declines in self-reported health following their diagnosis (OR 3.64, 95% CI 1.45-9.14). This relation strengthened after adjustment for self-rated health prior to diagnosis (OR 6.62, 95% CI 2.17-20.2). Greater declines in QOL were observed for cases than controls in both mental and physical subscales of the SF-36. This study will allow us to identify breast cancer survivors who have the greatest risk of having lower quality of life after diagnosis. These women might benefit most from interventions to prevent or delay additional morbidity.	Communicating Breast Cancer Recurrence Risk: The Role of Health Literacy Brewer NT, Lillie SE, O'Neill SC, Rimer BK, Carey LA, Dees EC. Purpose: New genomic technology has improved the accuracy of estimates of breast cancer recurrence risk. This test has considerable implications for chemotherapy decisions yet little is known about how well women understand the test and its results. Methods: We interviewed post-treatment female breast cancer patients (N=144), assessing their health literacy (using REALM) as well as knowledge of and attitudes toward the test. The women had a median age of 58 (range,36-85). Most were Caucasian (80%) and relatively well-educated (50% had a college degree). Results: After a presentation of information on the recurrence risk test, women with lower health literacy retained less information than women with higher health literacy (75% vs. 90% accurate), $t(140)=4.73, p<.001$. Overall, women found verbal comparisons (your risk is higher than the average person) hardest to understand and mixed verbal-percentage formats (7% risk and that is a low risk) easiest to understand. However, there were health literacy-related differences in understandability. Women with lower health literacy stated equal understanding of all risk formats, $F(5,135)=1.43, p>.20$. In contrast, women with higher health literacy expressed better understanding of the mixed verbal-percentage format while finding verbal comparisons least understandable, $F(5,135)=17.95, p<.001$. Self-efficacy partially mediated this effect ($p<.05$). Summary: Differences in perceived understandability of risk communication format were driven entirely by higher health literacy women and their self-efficacy in interpreting risk information. The optimal risk format for women with higher health literacy is not problematic for women with lower health literacy.

Yu-Ching Yang, MS **1:45 pm**	**Judy Huei-yu Wang, PhD** **2:00 pm**
The role of FGFR4 polymorphism in the development and progression of bladder cancer. Yang YC, Lu ML, Cao W, Cai L, Cordon-Cardo C, ReuteV, Wallerand H, Chopin DK, Rao JY, and Zhang ZF Purpose: To investigate the impact of FGFR4 G388R polymorphism in the development or progression of bladder cancer. Methods: 219 bladder cancer patients and 151 controls were recruited from Memorial Sloan-Kettering Cancer Center between October 1993 and June 1997. The PCR-RFLP method was used to assess the genotype of FGFR4, and status of TP53 mutation were detected by a genechip-based method. Results: Prevalence of Gly/Gly, Gly/Arg, and Arg/Arg genotypes were similar among patients and controls, suggesting that FGFR4 G388R may not be involved in the early development of bladder cancer. We detected no clear correlation between the FGFR4 G388R polymorphism and pathological parameters such as age at diagnosis, tumor stage, grade, or TP53 mutations. Neither TP53 mutations nor FGFR4 G388R showed any evidence of an association with time to disease-specific death. However, the combination of Gly/Gly genotype and TP53 mutations was strongly associated with reduced disease-specific survival time within a 120 months follow-up period (HR=1.94; p=0.037). Conclusion: Our findings suggested that the FGFR4 gene might have a limited role in bladder cancer development. However, combined information of FGFR4 G388R polymorphism and TP53 mutations may serve as a prognostic factor in predicting disease-specific survival for patients with bladder cancer and a potential target for therapeutic strategy.	Preliminary evaluation of a breast cancer educational video for Chinese-American women: A community-participatory study Wang JH, Liang W, Schwartz M, Lee M, Kreling B, Mandelblatt JS. Purpose. Chinese women have among the lowest breast cancer screening rates in the US. We developed and evaluated a culturally-tailored educational video guided by the Health Belief Model to promote Chinese women's use of mammography. Method. This study included three phases: 1) focus-group discussions and an advisory board meeting including Chinese community leaders and cancer survivors to guide the video development, 2) producing the video with community actors, and 3) conducting a pre-post test pilot to evaluate the efficacy of the video in changing knowledge, beliefs, and screening intentions among Chinese women (age>39) who were not adherent to current NCI mammography guidelines (n=50). Results. A 17-minute video was produced in Mandarin and dubbed with Cantonese voices. The video included a soap-opera addressing barriers to screening and a segment with a physician recommending screening. Our preliminary evaluation of the video showed that compared to 37% at baseline, 88% of the participants intended to obtain a mammogram after viewing the video (p<.0001). There were significant increases in knowledge about breast cancer and mammography (p=.001) and decreases in Eastern cultural views of cancer (p<.0001). More than 84% of the women liked the video and said it was understandable, persuasive, and clear. Conclusion. Our video was successfully created based on an intensive collaboration within our local Chinese community. This culturally-tailored video has the potential to motivate Chinese women to adhere to mammography screening. We will be testing the efficacy in future trials with broader community populations.

Sandi L. Pruitt, MPH **2:15 pm**	**Brian C.-H. Chiu, PhD** **2:30 pm**
Communicating Colposcopy Results: What do Patients and Providers Discuss? Sandi L. Pruitt, M.P.H., Patricia Parker, Ph.D., Michele Follen, M.D., Ph.D., Karen Basen-Engquist, Ph.D., M.P.H. Objective: Many women lack knowledge about cervical cancer screening and colposcopy and can experience worry and anxiety during and following these exams. We analyzed the content of the information discussed during consultations in which women were informed of their colposcopy exam results. We also examined the women's perceptions of the discussion and their condition. Method: Forty-seven results visits were taped, transcribed, and analyzed for content. Following the visit, women were asked to rate their perceived severity and worry about their condition and their rating of the provider's explanation. Results: Nearly all (n=46) of the providers gave a name or description of the woman's diagnosis and all discussed some aspect of the follow-up plan for screening or treatment. Risk factors were rarely discussed: human papillomavirus (HPV) was discussed in 6 visits, smoking was discussed in 3 visits and sexual activity was discussed in 1 visit. Thirty-one women asked questions and 6 brought a friend or family member to the visit. Forty of the clinicians asked if the woman understood their explanation or if she had any questions. Using 10-point Likert scales, women rated the perceived seriousness of their condition (4.3), their perceived worry (4.4), and the quality of the clinician's explanation (9.6). Conclusion: Overall, the content of these results visits was focused on follow-up screening and treatment plans whereas prevention messages were rarely discussed.	A cohort study of body mass index, abnormal glucose metabolism and mortality from hematopoietic cancer. Chiu BC-H, Gapstur SM, Greenland P, Wang R, Dyer A. Purpose: Using data from a prospective cohort study, we investigated associations of interviewer-measured body mass index (BMI) and postload plasma glucose (PLG) levels with risk of mortality from non-Hodgkin lymphoma (NHL) among persons without diabetes at baseline and to explore associations with leukemia and multiple myeloma. Methods: Employees of 84 Chicago-area organizations, with an average age of 40 years at baseline, were screened from 1967 to 1973. Height and weight were measured by study nurses. A 50g oral glucose load was administered to nondiabetic participants. Of the at-risk cohort of 35,420 men and women, 129 died of NHL, 151 died of leukemia, and 66 died of multiple myeloma during an average of 31 years follow-up. Results: Among men, there were positive dose-response relations of BMI with NHL (Hazard Ratio (HR)=2.57, 95% confidence interval (CI)=1.24-5.34 for the highest vs. lowest quartile, p-trend=0.01) and leukemia (HR=1.98; 1.07-3.69, p-trend=0.02), after adjustment for age, education, smoking status, and race. PLG also was positively related to NHL (HR=2.86, 1.35-6.06 for the highest vs. lowest category, p-trend = 0.004). For women, a higher BMI was positively associated with leukemia (HR=2.47; 0.96-6.36; p-trend=0.02) and the highest level of PLG was associated with a three-fold higher risk of mortality from multiple myeloma (HR=3.06; 1.05-8.93). The risk estimates for obesity and PLG remained essentially unchanged after adjusting for each other. Conclusion: Our data suggest that factors associated with BMI and/or abnormal PLG might play an important role in the mortality from NHL and possibly, leukemia, and from myeloma in women.

Poster Directory

1	2
Youth Smoking Cessation: Baseline Characteristics and Predictors of Quitting in a National Sample of 2,582 16-24 Year Old Smokers. Giovino GA, Donohue K, Buffalo, NY; Barker DC, Calabasas CA; Tworek C, Portland ME; Orleans CT, Princeton, NJ. Purpose: We investigated the natural history of quitting smoking among a representative sample of older adolescent and young adult smokers in the United States. Methods: Random-digit-dialing techniques were used to conduct a Baseline Survey with a representative sample of 2,582 16-24 year old cigarette smokers (at least 20 lifetime cigarettes and smoked in the previous 30 days) during 2003. 72% of eligible smokers participated. Of these, 1,696 (66%) were recontacted 12 months later. Baseline characteristics were used to describe the population and assess predictors of quitting. Results: Ninety percent had ever smoked at least 100 cigarettes; 62% were current daily smokers; 58% had tried to quit during the previous year; and 78% considered themselves smokers. More than 20% had ever tried NRT, but only 2% had ever called a quit line and 1% had ever used an internet web site. After 12 months, 13% of those followed were abstinent for at least 30 days. In multivariate models, predictors of quitting included dependence level, motivation, self-efficacy, school performance, smoker-self identity, and functional utility (eg., anger control). Conclusions: Many of the same factors that predict quitting in adult smokers predicted quitting in this population. However, self identity as a smoker and using cigarettes for anger control may be particularly important issues for this population.	Methods Used to Develop a Decision Support System for Tobacco Use Counseling Marcy TW, Michel G, Connolly S, Kaplan B, Shiffman RN, Flynn BS Purpose: To develop a prototype clinical decision support system (CDSS) to support physicians' adherence to the USPHS tobacco use and dependence treatment guideline. Methods: We designed a CDSS prototype in response to preferences of physicians and clinic managers identified by surveys (Marcy et al Prev Med 2005). We then conducted usability testing that combined observation with ethnographic interviews of seven physicians and four members of an expert panel as they used the CDSS. Results: Physicians and office managers prefer that a smoking cessation CDSS run on a handheld computer (PDA), and that it provide patient-specific information; administrative information (e.g., patient's insurance); tailored patient handouts; and documentation of counseling. Subsequent testing of the CDSS with physicians validated many of our design features. However, our initial active reminder system communicated the patients' smoking status from a computer at intake to a PDA with the physician. All seven physicians considered this method incompatible with their clinic intake systems. Six physicians favored a paper-based active reminder with the seventh preferring no reminder. Summary: Information technology offers tools to improve tobacco use counseling that are attractive to physicians. However, to be effective physicians must be able to easily incorporate the CDSS into their workflow. The design of our smoking cessation CDSS changed substantially as a result of physician testing. We recommend this type of ethnographic approach in the development of a CDSS for preventive care.
3	**4**
Association Between Movie Smoking and Adolescent Smoking Initiation-Longitudinal U.S. Sample. Sargent J, Tanski S, Adachi-Mejia A, Worth K, Dal Cin S, Beach M, Dalton M Background: We assessed the association between movie smoking exposure (MSE) and smoking initiation in a longitudinal representative sample of U.S. adolescents. Method: We identified 5829 adolescent never smokers through a nationwide RDD telephone survey. We re-surveyed 77.8% (N=4538) 16 months later, at which time 11.6% reported having tried smoking. MSE was determined at baseline by summing the number of smoking occurrences in random samples of movies seen by the adolescents and dividing exposure into quartiles. Relative risk (RR) of smoking was assessed using GLM, controlling for sociodemographics, other social influences, personality factors, and parenting style. Results: Baseline MSE was strongly associated with smoking initiation: 6.6% for quartile 1, versus 13.2% (fully adjusted RR = 1.4) 20.7% (RR = 1.5), and 33.5% (RR = 1.8) for quartiles 2, 3, and 4 respectively (all p-values < 0.05). Moderation analyses revealed that the relationship between MSE and smoking initiation was statistically significant among White, but not Black adolescents, 15.0% of whom initiated in quartile 1, versus 13.6%, 15.8%, and 22.2% for quartiles 2, 3, and 4 respectively (p-value NS). Among White adolescents, when compared to MSE quartile 1, adjusted RRs for smoking initiation were 1.8 (1.3, 2.7), 1.9 (1.3, 2.8), and 2.7 (1.9, 4.0) for quartiles 2, 3, and 4 respectively, and the adjusted attributable fraction was 0.47 (0.29, 0.64), confirming the findings of a New England longitudinal study. Conclusion: In a nationally representative U.S. sample, MSE predicts future smoking among White, but not Black, adolescents. Further research is needed to study processes mediating this moderation effect. Among Whites, MSE accounts for about 50% of observed smoking initiation.	Effects of Lung Age and Respiratory Symptoms Feedback on College Smokers' Risk Perceptions, Worry and Desire to Quit. Lipkus IM and Prokhorov A College smokers are rarely presented with individualized medical information detailing the degree of damage smoking is causing them. Presenting data on parameters of lung functioning, such as lung age and respiratory symptoms, may increase young smokers' perceived smoking risks and worries, thus motivating their desire to quit. We examined among 118 college smokers how the provision of lung age and respiratory symptom feedback or not (i.e controls) affected these aforementioned outcomes. Lung age plus respiratory symptoms feedback evoked higher perceived absolute risk relative to controls (M=5.7 vs. 5.2, p<.05); feedback did not affect worry (M=5.5 vs. 5.3) or desire to quit (M=4.9 vs. 4.5). Whereas mean lung age (M=35) exceeded smokers' chronological age (M=20), increasing lung age was not related to perceptions of absolute risk, worry or desire to quit. Increasing symptoms (M=3) was negatively related to greater perceived risk (r=.39, p<.01), worry (-.44, p<.001) but not the desire to quit. These data suggest that providing lung age or respiratory feedback has little effect on desire to quit and may even evoke defensive reactions.

5	6
Current Smoking Behaviors of Cancer Survivors Reichert V, Folan P, DeGaetano C, Jacobsen D, Miceli L, Bartscherer D, Kohn N, Talwar A. PURPOSE: We examined differences in smoking habits of cancer patients enrolled in a 6-week tobacco dependence program and compared them to other smokers without cancer. METHODS: Questionnaires elicited: medical history, smoking habits. Quit status was validated using carbon monoxide monitoring. F/u at one-year, non-responders considered relapsed. RESULTS: 100% of Smoking Cancer Patients [n= 119,mean age 57, 43 pack-years, 4 quit attempts] vs. 89% other smokers [n=1065, mean age 46, 34 pack-years, 2 quit attempts] reported being advised by an MD to quit. Cancer patients were 2x more likely to have co-morbidities; 3x more likely to been hospitalized in previous year ($p<0.0001$). Cancer patients were 2x more likely to smoke to 'give them a lift' ($p<0.03$); and 'when comfortable and relaxed' ($p<0.02$). Cancer patients were LESS likely than other smokers to report: "worrying that cigarettes will make me sick" ($p<0.05$). In both groups 72% reported 'feeling guilty about their smoking'; 64% erroneously 'believe nicotine causes cancer'. No difference in: 30-day quit success [55% cancer vs. 58% others]; one-year quit success [38% cancer vs. 35% others]. CONCLUSIONS: Cancer patients in our study were older, sicker, and utilized more healthcare resources. Tobacco control programs using behavior modification and pharmaco-therapy are equally effective in treating all tobacco users despite variable prevalence of guilt and knowledge deficits. We believe that focusing on emotional conflicts and knowledge deficits of smoking cancer patients will help further improve cessation rates.	Calcium source and colon polyp development Janet A. Tooze, Mara Z. Vitolins, Tim Byers, Steven M. Haffner, Rebecca Sedjo, and Ralph B. D'Agostino Both experimental and epidemiologic studies have been suggestive that dietary calcium may have a protective effect for the development of colon cancer, but these studies are inconclusive. Because studies using colon cancer as an endpoint require many person-years of follow-up, polyp formation has been used as a surrogate endpoint in many studies, as a precursor for the development of cancer. Participants (n = 598) were from the Insulin Resistance Arteriosclerosis (IRAS) Study, who completed a food frequency questionnaire (FFQ) between 1992-1994 and received a colonoscopy between 2002-2004. Participants were aged 40-69 at the baseline, and were selected to be representative of both genders, diabetes status (normal, impaired glucose tolerance, diabetes mellitus) and three ethnic groups: African American, Hispanic, and non-Hispanic Whites. Polyps were categorized as hyperplastic, non-advanced adenoma (tubular), or advanced adenoma (villous features or dysplasia>1cm). Dietary calcium and supplemental calcium intake were computed for the Block FFQ. Approximately 49% of participants had 1 or more polyps, 32% of the participants had an adenoma or hyperplastic polyp, 23% had any adenoma, and 6% had an advanced adenoma. In multiple logistic regression analyses, both dietary calcium and supplemental plus dietary calcium were predictive of having any polyp ($p<0.05$). Only dietary calcium was predictive of developing a hyperplastic or adenoma (combined) or an adenoma ($p<0.05$), but the supplemental calcium plus dietary calcium was not statistically significantly predictive. The source of calcium may be related to the protective effect for polyp development and adenoma development.
7	**8**
Assessing Diet Quality with a Brief Dietary Assessment Tool Jilcott SB, Ammerman AS, Samuel Hodge CD, Keyserling TC Purpose: Western dietary patterns and low fruit and vegetable intake are thought to be associated with higher risk of cancer. There is a need for brief, valid dietary assessment tools for cancer prevention programs in high risk populations. Therefore, we examined the capacity of a brief, modified dietary risk assessment (DRA) tool to adequately measure diet quality and fruit and vegetable intake in a group of low-income, Southern, midlife (40-64 years) women. Methods: The DRA and a longer food frequency questionnaire (FFQ) were administered by phone to 104 women. Carotenoids were measured from a fasting blood draw. Diet quality index (DQI) scores were calculated using variables from the longer FFQ. We evaluated the association between DRA and DQI scores (lower score indicates healthier diet) using Spearman correlations, and the relationship of a carotenoid index (log transformed sum of á- and â-carotene, cryptoxanthin, zeaxanthin) to fruit and vegetable intake scores from the DRA using linear regression, stratified by smoking status and adjusting for body mass index and plasma cholesterol. Results: DRA and DQI scores were significantly correlated ($r = 0.59$, $p < 0.0001$). DRA scores for fruit and vegetable intake were significantly associated with blood carotenoids in both smokers and non-smokers. (beta, smokers = -0.38, $P = 0.006$; beta, nonsmokers = -0.23, $P = 0.001$). Conclusions: The brief, modified (DRA) may be a valid alternative to longer dietary measures in cancer prevention interventions.	Dietary Patterns and Breast Cancer Risk in the California Teachers Study Cohort. Link LB, Canchola AJ, Horn-Ross PL, and the California Teachers Study Investigators Purpose: The evidence for diet's role in breast cancer risk is conflicting, however, most studies examine specific foods and nutrients, rather than overall diet. The purpose of this study was to evaluate current dietary patterns and their relationship to breast cancer risk. Methods: Data from 100,485 women in the California Teachers Study cohort were analyzed, including 2,088 diagnosed with breast cancer from 1996-2001. Dietary patterns were determined using principal component analysis. Cox proportional hazards regression was used to evaluate hazard ratios (HRs), adjusting for known breast cancer risk factors. Results: Four major dietary patterns emerged: a "healthy" diet, high in fruits, vegetables, legumes, cottage cheese, and yogurt; a "Western" diet, high in sugar, refined grains, fast food, and high-fat dairy; a "high protein" diet, high in eggs, meat, and fish; and a "salad and alcohol" diet, high in leafy vegetables, tomatoes, salad dressing, coffee, wine, and liquor. Only the "salad and alcohol" pattern was significantly associated with breast cancer risk (adjusted HR=1.26, 95% confidence interval (CI): 1.09-1.46) for the highest quintile of intake compared to the lowest. Removing alcohol from this dietary pattern did not substantially affect its association with breast cancer risk (HR=1.20, CI: 1.04-1.39, adjusting for alcohol consumption). Conclusion: A dietary pattern characterized by salads, coffee, wine, and liquor is associated with breast cancer risk, independent of the effects of ethanol and socioeconomic status.

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New Approach to Supporting Diet Change: Motivational Interviewing by Email. Alexander G, Resnicow K, Claud S, Strecher V, Johnson CC for the MENU Choices Study, HMO Cancer Research Network Purpose: Change in eating patterns, especially increased intake of fruit and vegetables, is recommended to reduce cancer risk. We explored the feasibility of using email counseling based on brief Motivational Interviewing (MI) techniques to support diet changes. Methods: Study participants, aged 21 – 65 from five HMOs, are enrolled in a web-based nutrition program MENU Choices, one-third of whom are randomly assigned to an email support study arm. In preparation, email counselors participated in a 2-day interactive MI workshop, practiced MI specific diet change skills using practice and real cases, and received feedback during a half-day "brush-up" session. After study initiation, email exchanges were analyzed using the MITI coding system to examine the fidelity to MI principles and qualitative analysis to identify themes. Results: In early analysis, 75% of participants responded to MI counseling, with over 55% exchanging 2 or more email messages with the counselor. Initial coding of email exchanges indicated significant use of MI strategies, such as reflection, open-ended questions. Conclusions: Participants appeared willing to disclose personal information about their health habits, respond in detail to reflections from the counselors, and identify their own solutions.	Is Poverty Associated with a Decrease in the Incidence of Breast, Prostate and Colorectal Cancer? Nancy Shieh, DE Henson, The George Washington University School of Public Health and Cancer Institute. Objectives: Racial health disparities are often associated with socioeconomic status. Our aim was to correlative poverty with common cancers. Methods: Data included all counties participating in NCI's SEER Program. County data were matched with the Small Area Income and Poverty Estimates (SAIPE) program of the Census Bureau, which provides poverty statistics. Using correlation analysis and regression statistics, we found the best-fit linear relationship between cancers and poverty in Blacks, Whites, Native American Indians and Asian Pacific Islanders (API). Results: We found an inverse relationship between poverty and cancer incidence. The incidence rate plotted against the average percentage of the county population in poverty between the years 1992 and 2002 had negative slopes of -0.6 in Whites, -0.1 in Blacks, -0.07 in Native American Indians and -0.06 in API. This relationship is also seen in the rates of colorectal cancer, lung, skin, breast, cervical uteri and prostate among all race categories captured by SEER. Among Whites, there was a statistically significant negative slope in 7 of the 8 cancer sites. All regressions were negatively sloped in colorectal cancer, with statistically significance in Whites (-0.46) and Native American Indians (-0.23). In lung cancer and cutaneous melanoma, Whites, Blacks and API all had negative slopes of (-0.08,-0.38; -0.02,-0.11; -0.03,-0.18). Prostate cancer was negatively sloped for Whites (-0.29), Blacks (-0.19) and Native American Indians (-0.15). Conclusion:. Poverty is associated with a reduction in the incidence of breast, prostate, colorectal cancer, lung, and skin cancer in counties covered by SEER.
11	**12**
WIDENING COLORECTAL CARCINOMA DISPARITIES AMONG BLACKS AND WHITES IN THE UNITED STATES Irby K*, Henson DE*, Devesa SS**, Anderson WF**. *The George Washington University School of Public Health and Health Services and Cancer Institute, **DHH/NIH/DCEG/BB Purpose: Colorectal carcinoma (CRC) is the fourth most common cancer and the third most common cause of cancer death in the US. Incidence and mortality rates have decreased since the mid-1980s, though more for Whites than for Blacks. Methods: To determine if these racial disparities were changing, we examined CRC cases in the SEER program. Tumor characteristics were stratified by race and gender for CRC cases diagnosed during the years 1975 to 2002. Summary: Our data showed earlier ages-at-onset for Blacks compared to Whites and for men compared to women, with black men having the youngest median age at diagnosis, i.e., 66 years. CRCs among Blacks compared to Whites were more likely to have proximal anatomic subsite, worse SEER historic stage, and lower tumor grade. The most prominent histopathologic type was the adenocarcinoma, comprising 90% of all CRCs for all racial and gender groups. Rates for regional stage were higher than for localized CRC until 1985 after which there was crossover, likely due to earlier detection. This stage crossover occurred earlier for Whites than for Blacks and earlier for men than for women. Paradoxically and despite worse mortality rates and advanced tumor stages, Blacks tended to have well-differentiated tumors. Conclusions: CRC epidemiologic patterns have differed among Whites and Blacks and among men and women for nearly three decades, and the racial gap is widening. Further efforts are warranted to delineate the determinants as well as reduce the disparities for CRC.	GASTRIC CANCER: HAS IODINE DEFICIENCY BEEN OVERLOOKED AS THE CAUSE? A NEW HYPOTHESIS TO EXPLAIN THE RELATIONSHIP Henson DE, and Zarrinneshan A. The George Washington University Cancer Institute, Washington DC. Purpose: The decline in gastric cancer is unique in the history of malignant disease. Historical epidemiological evidence implicates iodine deficiency and excess as potential causes of gastric cancer. However, there are no data that support a mechanistic role of iodine in gastric cancer. For this reason, iodine has not been considered a major etiological factor. Herein, we offer a new hypothesis that explains the relationship between iodine and gastric cancer. Materials: Published historic data on the relation between iodine and gastric cancer were reviewed. Summary: In most countries, gastric cancer decreased after iodine prophylaxis to reduce endemic goiter. Based on this association, we propose that iodine causes gastric cancer indirectly. Goiter leads to inflammation in the thyroid, which leads to the formation of antibodies that cross-react with antigens in the stomach that lead to chronic gastric inflammation, the precursor for stomach cancer. Both the thyroid and stomach have a common embryologic origin and take up iodine. A similar mechanism seems to exist for ulcerative colitis and cancer of the extrahepatic bile duct. Bile duct cancer, which is also preceded by chronic inflammation, is a major complication of chronic ulcerative colitis. Conclusions: We present the hypothesis that iodine associated goiter causes gastric cancer indirectly just as ulcerative colitis causes common bile duct cancer indirectly by causing long standing chronic inflammation in distant organs through an autoimmune process. This hypothesis indicates that the role of iodine in gastric cancer should be reconsidered.

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Association between Cruciferous Vegetable Preference and Bitter Taste Perception as Characterized by PROP Taster Status and TAS2R (taste receptor gene)Haplotype in Healthy Adults.
Jackson K, Pettis E, Newton T,Thomson C.
Among populations with greater intake of CV, incidence of select cancers is reduced. Yet, consumption of CV is low in the U.S. possibly related to lower acceptance for the bitter flavor of these foods. The purpose of our pilot research was to determine the relationship between TAS2R taster haplotype as well as PROP taster status and cruciferous vegetable preference in a sample population of healthy adults who reported some intake of CV within the previous month (N = 41). CV preference data was collected using a preference questionnaire and PROP taster status was determined by a validated filter paper method which was administered by mail. DNA was purified and then amplified using PCR. PROP taste analysis showed that 58% of the population were tasters, with this group having significantly higher preference scores for "cooked," "raw," and "all cruciferae" as compared with nontasters. Comparison of PROP taster status and TAS2R homozygous genotype showed that taster status was significantly associated with the expression of the PAV homozygous haplotype, and nontaster status with the AVI homozygous haplotype. Further, PROP "tasters" reported a greater preference for CV than "nontasters" implying that while bitterness has been determined to be a barrier to consumption of CV in some study populations, in this sample population of regular CV consumers, ability to perceive bitter taste was associated with increased preference for these foods. Thus, CV interventions to reduce cancer risk may not be limited by individual bitter taste perception as this may enhance intake in some individuals.

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How Restaurants Provide Menu Options
McKenny N, Frelick RW

Purpose: To identify reasons restaurants select menu options as well customer food desires, since portions and type of food offered often suggest a lack of healthy options.
Methods: In separate written surveys to determine restaurant and customer reasons for food choices and preferences, the restaurant manager (if willing) was asked to complete the restaurant survey and provide the customer patron survey to willing diners. Results: 18 average restaurant operators in Northern Delaware who answered thought that value was the most important factor. The majority cited "lack of demand" as the biggest barrier for offering "healthier" menu options. The 88 customers top rated taste and quality of food followed by price and then portion size. Nutritional value and healthfulness was rated last. However, more than half said they would like to see more fruits, vegetables, and lower-fat items on menus, and a third would like to see more nutritional information on food choices.
Conclusions: Most restaurant operators do not think that there is enough customer demand for healthier menu selections, however, the customer survey indicated having healthy options available along with nutrition information about menu items would help them eat healthier when dining out. A common finding was a lack of understanding about how nutritious values could reduce American obesity rates.

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Variants in estrogen biosynthesis and metabolism genes and urinary estrogen metabolites in women with a family history of breast cancer.
Greenlee H, Chen Y, Kabat GC, Wang Q, Kibriya MG, Gurvich I, Sepkovic DW, Bradlow HL, Senie RT, Santella RM, Ahsan H

We conducted a pilot study to examine associations between polymorphisms in genes related to estrogen biosynthesis (CYP17 T?C, CYP19 TTTA repeats) and metabolism (CYP1B1 codon 432 G?C and codon 453 A?G, COMT codon 158 G?A) and urinary estrogen metabolites (2-hydroxyestrogens (2-OHE), 16-alpha-hydroxyestrone (16-alpha-OHE1), and their ratio) in 64 pre- and postmenopausal women with a family history of breast cancer. Women were participants in the Metropolitan New York Registry, one of six NCI Breast Cancer Family Registries. We used linear regression to examine the associations between genetic polymorphisms and log-transformed urinary metabolite levels. After adjusting for menstrual status, BMI and age, we found that carriers of the CYP1B1 codon 453 G allele had 31.0% lower levels of 2-OHE (p-value=0.053) and 40.2% lower levels of 16-alpha-OHE1 (p=0.005). When we restricted the analyses to premenopausal women (n=41), we found similar results. Consistent with other studies, among premenopausal women the COMT codon 158 A allele was associated with increased 2-OHE levels (p=0.031) and an increased 2-OHE/16-alpha-OHE1 ratio (p=0.035); the CYP17 C allele was associated with increased 2-OHE levels (p=0.082). To our knowledge this is the first report showing the effect of the CYP1B1 codon 453 G allele on urinary 2-OHE and 16-alpha-OHE1 metabolites, despite the small sample size. Further larger studies should be done to confirm these results.

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Nucleotide Excision Repair Genetic Polymorphisms, Meat Intake and Colon Cancer Risk
Steck, S.E., Butler, L.M., Galanko, J., Keku, T.O., Sandler, R.S., Hu, J.J.

Purpose: Carcinogens produced in the course of cooking meat at high temperatures can lead to DNA damage which can be repaired by the nucleotide excision repair (NER) pathway. We tested whether non-synonymous single nucleotide polymorphisms (nsSNPs) in NER genes may modify the association between meat intake and colon cancer risk.
Methods: Colon cancer cases (n=643) and a random selection of controls (n=1049) were selected from 33 counties in North Carolina from 1996 to 2000. Information on meat intake and preparation methods was collected by dietary interview. Genomic DNA from whole blood was used for genotyping 7 NER nsSNPs: XPC A499V and K939Q, ERCC2 D312N and K751Q, ERCC4 R415Q, ERCC5 D1104H, and RAD23B A249V. Adjusted odds ratios (OR) and 95% confidence intervals (CI) were calculated using logistic regression.
Results: No association was observed for any of the NER nsSNPs and risk of colon cancer. Increased risk of colon cancer was observed for high consumption of total meat as compared to low consumption in individuals homozygous variant for the ERCC2 D312N or the K751Q SNP (OR=2.7, 95%CI=1.2, 6.3, and OR=2.4, 95%CI=1.2, 4.8, respectively) and in carriers with at least one V allele for the RAD23B A249V SNP (OR=1.6, 95%CI=1.0, 2.6), but not in homozygous wildtype-carriers for these SNPs.
Conclusions: Specific NER nsSNPs may modify the association between meat intake and colon cancer risk. This work was supported by R01CA90898 and an ASPO/CRPF Cancer Prevention Research Fellowship.

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Detection of Somatic Mutations in the Mitochondrial Control Region DNA in Breast Cancer Tissue. Tan DJ, Baeder M, Riscuta G, Barber JS, Albu L, Wong LJC and Shields PG. The mitochondria play an important role in pathogens of disease, aging, and cancer. Mitochondrial genome is susceptible to oxidative DNA damage because of the lack of the protective histone proteins and the limited DNA repair mechanisms. The D-loop of mitochondrial DNA (mtDNA) contains essential elements for transcription and replication. Mutations in this region may alter the biogenesis and expression of mitochondrial genome. In order to investigate whether a high incidence of somatic mutations exists in D-loop region of mtDNA of breast cancer tissues, we used temporal temperature gradient gel electrophoresis to screen unknown somatic mutations in D-loop of 72 breast cancer tissues, followed by sequencing of the DNA fragments that show differences in banding patterns between paired normal and tumor tissues. A total of 55 somatic mutations were found in D-loop in 29 out of 72 tumors (40.28% positive). Of these mutations, eleven (20%) were deletions or insertions in a homopolymeric C-stretch between nucleotides 303-315 (D310). The remaining 44 mutations (80%) were single-base substitutions. Among them, 26 were in H-strand origin (47.27%). Nine (22. 7 %) were located in mtTF1 binding site. The frequency of four transfer types are 45.45%, 30.9%, 12.73% and 10.9% at Hm (homoplasmy in normal tissue) ¨Ht (heteroplasmy in tumor), Ht ¨Hm, Hm ¨Hm, and Ht ¨Ht (with different proportion of mutant DNA) respectively. Our results showed that somatic mutation in D-loop region is a general phenomenon in breast cancer. D-loop is the hypervariable region with high frequency of polymorphisms and somatic mutations. Mutation in D-loop region may play a role in the genesis and development of breast cancer.	Association between Parity and the Estrogen Metabolizing genes, CYP17 and CYP19, in the Development of Ovarian Tumors of Low Malignant Potential. Hunter MI, Peel D, Brewster WR. Background: Recent studies have demonstrated an association between women's cancer and the presence of polymorphisms in the genes that control estrogen biosynthesis. We evaluated the presence of the TTTA microsatellite polymorphism in the aromatase (CYP19) gene, and the presence of mutations in the CYP17 gene, in a group of patients with ovarian tumors of low malignant potential (LMP) and in controls. Methods: The study was conducted based on 155 patients with LMP tumors, recruited from the regional tumor registry, with the recruitment of 363 unaffected controls. Patients were stratified by the presence of an 11-repeat TTTA polymorphism and mutations in the CYP17 gene. Results: Of the LMP patients, 118 (76%) had a parity of 1 or greater, compared with 316 (87%) controls. The finding of homozygosity for the CYP17 gene variant significantly decreased the likelihood of presenting with an LMP tumor in this parous group. (O.R. 0.41, 95% C.I. 0.2 - 0.86) No significant difference in risk was seen for the nulliparous subjects. Forty-nine patients with LMP tumors had their first child born under the age of 25 years, compared to 155 controls. In this group of LMP patients with early parity, 30/67 (45%) had an 11- repeat polymorphism in the CYP19 gene, compared with 100/161 (62%) of control subjects. Patients with an 11-repeat had a lower likelihood of being diagnosed with an LMP tumor. (O.R.0.49, C.I. 0.28-0.88) Conclusion: Parous patients who are homozygous for the CYP17 variant have a lower than expected risk of developing an LMP tumor of the ovary. Similarly, the presence of a CYP19 11-repeat TTTA polymorphism in individuals with a history of young parity, appears to be associated with a lower risk of LMP tumors.
19	**20**
Performance of a Self-administered, Web-based Tool to Screen Family History for Hereditary Breast Cancer Risk. Acheson LS, Wiesner GL, Deptowicz A. Background: In September, 2005 the U.S. Preventive Services Task Force (USPSTF) recommended that women whose family history suggests increased risk of hereditary breast-ovarian cancer (HBOC) be referred for genetic counseling and special cancer preventive measures. Family history screening has not previously been feasible on a large scale, so the effects of widely implementing these recommendations are unknown. Purpose: We have programmed the web-based, self-administered Genetic Risk Easy Assessment Tool (GREAT) to identify family history patterns that meet the USPSTF criteria for increased risk of HBOC. We will report the results of using this tool to apply the USPSTF criteria for increased risk of HBOC to 100 pedigrees of known familial cancer risk status. Methods: GREAT users complete a validated questionnaire to record family history of cancer, receive a computer-generated pedigree and personalized messages about cancer risk and prevention. BRCA mutation probability and empirical breast cancer risk are automatically calculated from the user's family and personal history information. The sensitivity and specificity of the USPSTF criteria for identifying increased risk of HBOC will be compared with the BRCaPRO mutation probabilities, Ontario Family History Assessment Tool scores, and empirical breast cancer risks (Claus model), calculated via the GREAT. Results: Analyses are in progress. Significance: These data will allow comparison of the performance of the USPSTF criteria with other models for identifying people at increased risk of HBOC. A web-based, self-administered tool with appropriate risk algorithms could make population screening for familial cancer risk more feasible.	Evaluation of Genetic Tests for Cancer: The EGAPP Project (Evaluation of Genomic Applications in Practice and Prevention) Presented by Kathryn A. Phillips, University of California-San Francisco, Member EGAPP Working Group, on behalf of EGAPP investigators (http://www.cdc.gov/genomics/gtesting/EGAPP/group.htm) EGAPP is three-year model project sponsored by the CDC that began in 2005. The goal is to establish and evaluate a systematic, evidence-based process for assessing current and future genetic tests as they transition from research to practice. The 13 members of the Working Group have expertise in evidence-based review; health technology assessment; primary care, specialty care or nursing care; epidemiology; clinical genetics/genomics; economics and decision analysis; laboratory practice; and ethics, law or policy development This Working Group is prioritizing and selecting topics, establishing methods and processes, overseeing expert and peer review of commissioned evidence reports, and developing conclusions or recommendations based on the evidence. The purpose of this presentation will be to discuss the approaches and methods being used by EGAPP to examine genetic tests. Topics will include how genetic tests are nominated and chosen for further evaluation, what outcomes are being considered in evaluations, and the methodological approaches being used. The presentation will focus particularly on what genetic tests for cancer are being evaluated and will use the example of HPNCC testing for colorectal cancer for illustration.

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What DON'T We Know about Colorectal Cancer Screening and WHY Don't We Know It: Results from the UCSF SCREEN Study.
Kathryn A. Phillips on behalf of SCREEN investigators:Hiatt RA, Kerlikowske K, Ladabaum U, et al.

Background: We will report initial results from a multi-project NCI study to increase colorectal cancer screening (the Study of Colorectal Cancer Screening Using Research on Economics (SCREEN)).
Key Findings to Be Discussed:
•Screening utilization has increased only modestly, although most individuals who get screened are adherent to guidelines. Measuring adherence over time using available datasets continues to be challenging.
•We still do not know enough about what factors determine who is screened and what interventions will increase screening.
•Patients particularly value the sensitivity of screening tests and thus are more concerned about avoiding false negative tests than false positive tests – a finding that has significance for other health interventions.
•Physicians think that their patients will often not choose ANY screening method – contrary to what patients state – thus suggesting one barrier to screening.
•Both actual utilization rates and patient preferences influence costs and effectiveness of screening programs.
•Patient preferences could be used to inform decision-making – but we currently know little about developing short decision aids that can actually be used in clinic settings.

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Lycopene Interferes with Insulin-like Growth Factor I Signaling in Stage-Specific Prostate Cell Lines
Lili Tang, Li Xu, Jia-sheng Wang

Purpose: Prostate cancer is the most common malignancy in American men, accounting for 33% of all male cancer incidences and 10% of all male cancer mortality in the U.S. Many studies have shown that IGF-I signaling pathway plays a key role in prostate carcinogenesis and is a target for chemopreventive interventions. The aim of this study is to investigate the effect of lycopene on IGF-I signaling pathway in stage-specific human prostate cells. Methods: Using prostate cell lines representing normal prostate epithelium (RWPE-1), transformed non-cancerous prostate cell (PRW-1E), prostatic intraepithelial neoplasia cell (RWPE-2), and metastatic tumor cells (LNCaP & PC-3) as models to study effects of different concentrations of lycopene over different treatment times. Summary: IGF-I concentration at 5 ng/mL significantly promoted the growth of all stages of human prostate cells, including RWPE-1, PRW-1E, RWPE-2, LNCaP, and PC-3 cells. The inhibitory effect of lycopene was more significant on the growth of IGF-I stimulated cells than in un-stimulated cells. Lycopene at 4 μmol/L significantly inhibited the IGF-I induced growth in RWPE-2, PC-3 cells by 73% ($p<0.01$) and 54% ($p<0.05$). No significant effects were found for lycopene on the growth of RWPE-1 and LNCaP cells. Mechanisms of lycopene action through modulation of IGF-I binding protein-3 and IGF-1 receptor are further studied.

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Cancer Chemoprevention Using Vitamin D
Boerner PS, Mehta RG, Mehta RR, Narayan S, Packianathan S, Vijayakumar S
Purpose: Non-toxic vitamin D analogs are potential chemopreventive agents. One ongoing chemopreventive trial is the Women's Health Initiative, which includes a vitamin D supplementation arm to test if vitamin D prevents colorectal and breast cancer (Control Clin Trials 1998;19:61-109). To design chemoprevention clinical trials, it is important to compile outcomes data from therapeutic studies involving vitamin D and its analogs. Methods: We searched the "PubMed" database through July 2005 for English language articles on clinical trials with vitamin D. References returned were carefully reviewed and the search extended to references identified in the retrieved literature but not discovered in the PubMed database. Our search and use of the literature was limited to in vivo studies. Results: We found 14 prostate cancer trials and 4 breast cancer trials which treated patients with vitamin D analogs; most were phase I and/or II toxicity/dose finding and tolerance- and response-determining studies. Different dosages and routes of administration were tried, including oral, subcutaneous and topical. Combination with other drugs such as carboplatin, paclitaxel, docetaxel, and dexamethasone was tested. Unique trial designs included those using pulse dosing. Summary: Less toxic vitamin D analogs and improved chemoprevention clinical trials are needed. We have planned one randomized phase I/II trial to test the hypothesis that treatment of prostate cancer patients with 1alpha(OH)D5 after radiation therapy will protect from disease recurrence (Cancer J 2004;10:357-67).

[Department of Defense Award # DAMD17-02-1-0070]

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Using Conjoint Analysis to Assess Preferences for Colorectal Cancer Screening Among Low Literacy and Minority Primary Care Patients. Hawley ST, Krishnamurthy P, Hebert N, Vernon SW, Volk RJ, Jibaja-Weiss M, Katz S
Purpose: To use conjoint analysis (CA) to understand variation in preferences for attributes of colorectal cancer screening (CRCS) tests (e.g., accuracy, discomfort) among low literacy and minority primary care patients. Methods: This study has two phases. In phase I, we conducted in-depth interviews with 74 patients (25 white, 27 African American, 22 Hispanic), and found that accuracy, preparation, frequency, discomfort, and cost were the top 5 CRCS attributes, and that attribute levels need to be simplified (e.g., some discomfort, no discomfort). These data were used to develop a CA preference assessment instrument for use in Phase II. This tool uses hypothetical CRCS test scenarios consisting of attributes and levels to evaluate preferences in 225 patients. The ratings given to the different scenarios are analyzed using regression and/or CA software programs. Results: The leading CRCS attributes included what was involved in the test, accuracy and discomfort. The evaluation of relative importance of attribute levels found that endoscopy was less preferred than fecal occult blood test or barium enema. When tests were presented in scenario format, respondents preferred new technology tests, including virtual colonoscopy and fecal immunochemical testing, to existing tests. Respondents were willing to pay $25 or less for a more accurate test. The extent of tradeoffs between test attributes varied among racial/ethnic groups. Conclusions: CA provides a valuable method for assessing CRCS preferences among low literacy patients. Further evaluation of variation in CRCS preferences will be important in tailoring interventions to increase compliance with CRCS in diverse populations.

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A Colorectal Cancer Risk Prediction Model and Web-based Assessment Tool
Johnson C, Ensor J, Vogelaar I, Amos A, Spitz M, Peterson S, Zauber A, Levin B, Berry D.

Purpose: We developed a colorectal cancer (CRC) risk prediction model and interactive web-based assessment tool based on published evidence of epidemiologic and clinical factors. Methods: Meta-analysis and microsimulation modeling were used to build a CRC risk prediction model, incorporating relative risk data through regression techniques.
Results: Evidence indicated that the factors to include in the model were age, gender, race, smoking, alcohol use, body mass index, red meat and processed meat consumption, fruit and vegetable intake, non-steroidal anti-inflammatory drug or aspirin use, hormone replacement therapy use, inflammatory bowel disease, family history of CRC, exercise, and screening. Case-weighted least-squares regression was employed to estimate the parameters and change-points of each risk factor model. Baseline probabilities of developing CRC were obtained from the SEER cancer database and categorized by sex, age, and race. Ten-year and lifetime probabilities of developing CRC were determined using these baseline probabilities and the user's risk factors. We also developed an interactive website to host the model, including a 17-item web-based questionnaire that generates individualized ten-year and lifetime probabilities of developing CRC, and presents individualized risk and protective factor information.
Summary: Development of the model and website demonstrates the feasibility of building evidence-based risk calculators. We plan to validate the model using a large population cohort.

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RCT of a mailed brochure to increase adherence to screening colonoscopy referrals
Thomas Denberg, Trisha Melhado, John Coombes, Lawrence Feinberg, Tim Byers, Alfred Marcus, John Steiner, Dennis Ahnen

Background: Even when primary care physicians (PCPs) have discussions with patients prior to referral for screening colonoscopy, patient non-adherence can be as high as 50%. Often, PCPs seem to lack sufficient time to educate patients and address their potential misconceptions and fears about colorectal cancer (CRC) and colonoscopy.

Methods: We developed a brochure to educate patients about CRC, lifetime risks for men and women, colonoscopy (including the preparation and the risk of perforation), and alternative screening tests. Within 10 days of colonoscopy referral, we randomized 448 patients to receive by mail a version of the brochure mentioning the name of their PCP versus no brochure (usual care).

Results: In the intervention group, adherence was 11.3% greater (69.0% vs. 57.6%, p=0.013) and days to complete a procedure were 10 fewer (60 vs. 70 days, p=0.009).

Discussion: An inexpensive mailed brochure can dramatically boost patient adherence to screening colonoscopy referral, even when it mentions the risk of perforation and details about the preparation (a likely improvement in achieving truly informed consent).

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The Behavioral and Psychological Effects of Receiving a False Positive Mammogram: A Meta-Analysis.
Salz T, Brewer NT, Lillie SE

Although mammography is widely used, it can yield a large number of false positive results. The impact of these false positives on women's behavior and psychological well-being is not well understood despite numerous studies. Contradictory findings, heterogeneous outcome measures, and an absence of theory have thwarted the development of a consensus on the effects of false positive test results. We conducted a meta-analysis of the relevant literature to address this gap in our understanding. Sixteen cohort studies (N=300,815) assessing the effect of false positive results on routine mammography reattendance or on anxiety met inclusion criteria. Standard meta-analysis methods were used to obtain pooled effect sizes. Overall, women receiving false positive mammograms were less likely to complete their next routine screening than women receiving normal results (OR=.59, 95%CI:.58-.61). However, stratifying by location of study revealed that, in Canada and Europe, those receiving false positives were less likely to return for routine screening (OR=.38 and OR=.83, respectively) while the opposite was true in the U.S. (OR=1.25). Receiving a false positive mammogram increased anxious affect (r=.04, 95%CI:.01-.07).
The effect of receiving false positive mammograms on routine screening appeared to be dependent on cultural and health care contexts, discouraging reattendance in some contexts and encouraging in others. In contrast, false positive results were associated with increased anxious affect in all contexts studied.

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Geographic Variation in Patient Follow-up After Curative-intent Treatment for Rectal Carcinoma. Neils DM, Grossmann EM, Longo WE, Ode K, Shariff US, Papettas T, McGarry AE, Gammon SR, Audisio RA, Virgo KS, Johnson FE.
Purpose: Most patients with rectal cancer are treated with curative-intent surgery ± adjuvant chemotherapy and/or radiation. A recent survey of members of the American Society of Colon and Rectal Surgeons (ASCRS) revealed considerable variation in surveillance intensity after primary treatment. We evaluated whether geographic factors or location-specific managed-care organization (MCO) penetration rates are responsible for the observed variation. Methods: Vignettes of hypothetical patients and a questionnaire based on the vignettes were mailed to the 1782 members of ASCRS. The general linear model of repeated-measures analysis of variance was used to compare practice patterns according to US Census Region, Metropolitan Statistical Area (MSA), and local MCO penetration rate.
Results: There was significant variation in surveillance intensity according to the US Census Region in which the surgeon practiced. Non-US respondents employed all modalities significantly more often than US respondents ($p < 0.05$). MSA was not a significant source of variation. Surveillance patterns varied significantly ($p < 0.05$) by MCO penetration rate for office visit and CT of abdomen/pelvis but not for other modalities.
Conclusions: 1. The intensity of patient surveillance following completion of primary curative-intent therapy is affected statistically significantly by the US Census Region in which the surgeon practices. 2. The MSA in which the surgeon practices does not impact surveillance intensity significantly. 3. MCO penetration rate affects follow-up intensity minimally. 4. All statistically significant differences are rather modest clinically. These data should be useful in the design of controlled trials on this topic.

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Large-area and Small-area Variation in Surveillance Strategies Following Curative-Intent Surgery for Upper Aerodigestive Tract Cancer.
Johnson MH, Clemente MF, Paniello RC, Virgo KS, Johnson FE.

Purpose: Overuse, underuse, and misuse of medical resources have been identified as potentially correctable problems in health care. Analysis of geographic variation in utilization of medical resources is often used to identify regions of over- or underutilization. Methods: We surveyed the membership of the American Head and Neck Society regarding their recommended frequency of office visits and 13 imaging studies and blood tests for their patients after potentially curative therapy for upper aerodigestive tract cancers.
Results: Of the 1322 members surveyed, 610 (46%) responded: 420 responses (32%) were evaluable. Responses were compared by U.S. Census Region, Metropolitan Statistical Area, and managed care organization penetration rate. Overseas members (16% of evaluable responses) comprised a separate category for the regional analysis. There were statistically significant variations in practice patterns among census regions for office visits, CBC, CT of the head, sonography, and esophagoscopy. Non-U.S. members recommended significantly more blood tests, imaging studies, and endoscopy than U.S. members for routine cancer surveillance. Only the frequency of office visits differed significantly among metropolitan statistical areas. Surprisingly, the penetration rate of managed care organizations had no significant effect on post-treatment surveillance intensity.
Conclusion: This analysis indicates that only a small portion of the wide variation in observed follow-up practice patterns can be explained by geographic determinants.

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A Randomized Controlled Trial to Increase Colorectal Cancer Screening in Chinese Americans
S. Tu, V. Taylor, Y. Yasui, M. Yip, et al.

Purpose: Colorectal cancer (CRC) is the second leading cause of cancer mortality in the US. Compelling studies show fecal occult blood testing (FOBT) can reduce CRC mortality; however, the few surveys conducted with Asian Americans reveal low CRC screening rates.
Method: To promote FOBT, we conducted a randomized controlled trial at the International Community Health Services (ICHS), a clinic located in the heart of Seattle's Chinatown that serves predominantly Asian Americans. Chinese patients who spoke Cantonese, Mandarin or English, were 50-78 years of age, with no prior history of CRC or end stage diseases, and no FOBT screening in the last 12 months were eligible for the study. Patients were randomly selected for the intervention or control group (usual care). Intervention was provided through a trilingual (English, Cantonese and Mandarin) and bicultural clinic staff with a nursing background and included education on CRC screening, a motivational and educational video and pamphlet. A total of 210 patients were randomized into the trial. Our primary outcome was FOBT screening within the 6 months after randomization.
Results: To date follow-up data for 169 patients have been completed by chart audit. Fifty-six intervention participants (64%) completed FOBT screening compared to 21 patients (26%) in the control group. Final analysis to estimate the independent effects of factors associated with FOBT participation is in progress.

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Cognitive and emotional variables independently contribute to PSA test frequency: Data from an ongoing study of men from three ethnic groups
Brenda A. Adjei, Paul Michael Ramirez, Nathan S. Consedine, Carol Magai, James McKiernan
Purpose: Rates of prostate cancer screening are known to vary among the major racial groups. However, likely variations in screening behavior among ethnic subpopulations and the predictive utility of cognitive and emotional characteristics remain understudied. Based in an ongoing cluster-sampling study of urban men (current N = 239), we examined differences in prostate specific antigen (PSA) screening and psychological predictor variables in three ethnic groups (U.S-born European Americans, U.S-born African Americans, English-speaking Caribbean men), and considered how cognitive and emotional variables predicted PSA frequency.
Method: Participants completed a structured interview regarding their prostate cancer screening behaviors, as well as their attitudes, beliefs, knowledge, and emotions regarding prostate cancer and prostate cancer screening. Results: As expected, there were ethnic differences in PSA frequency as well as in cognitive and emotional variables, with English-speaking Caribbean men screening less frequently than U.S.-born European Americans. Regression analyses showed that adding cognitive variables (cues to action, efficacy beliefs and knowledge) predicted PSA frequency over and above background variables; further variance was explained when prostate cancer worry was introduced to the model.
Discussion: Preliminary results indicate that, although important, having screening recommended by physicians, knowledge regarding prostate cancer, and favorable perceptions of cancer treatments are usefully supplemented by emotional variables, such as cancer worry, in the prediction of PSA screening frequency.

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PROSTATE CANCER SCREENING AND SHARED DECISION MAKING PREFERENCES AMONG AFRICAN AMERICAN (AA) MEN
Williams RM, Africano NL, Turner RO, Davis JL, Johnson L, Davis KM, Schwartz MD, Taylor KL

Purpose: Due to the controversy surrounding the efficacy of prostate cancer screening (PCS) and the emphasis on shared decision making (SDM) as a way to assist men with their screening decision, we assessed AA men's SDM preferences for PCS. These analyses are based upon baseline data from a randomized trial assessing methods of educating AA men about PCS.
Methods: Subjects included 286 AA men aged 40-70 (M=55.3, SD=7.9) who were members of an AA Masonic organization and were eligible for PCS. Twenty nine percent had a college degree, 76% were married, 19% had a family history of prostate cancer, 44% had a PSA test in the past year, 88% intended to receive a PSA within 12 months. The sample had little decisional conflict about PCS (M=1.8/4.5, SD=.53). Fifty seven percent preferred a shared decision, 35% preferred to make their own decision, and 7% wanted their doctor to decide. Education level and age were positively associated with preferring a shared decision (p's $< .05$), while PCS knowledge level and active information seeking were both negatively associated with preferring a shared decision (p's $< .05$).
Summary: These findings indicate that although SDM was preferred by over half of the sample, more attention may be needed to engage younger, less educated, and less knowledgeable men who do not seek information about PCS. SDM should be encouraged among these men who are the most at risk for making an uninformed screening decision.

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A Research Resource for Breast Cancer Control: The Breast Cancer Surveillance Consortium (BCSC)
Berta Geller, for the BCSC
Purpose: The BCSC is a NCI sponsored network of mammography registries with linkages to tumor registries and pathology data Its goals are to enhance the understanding of breast cancer screening performance and outcomes in practice, and provide a foundation for the conduct of clinical and basic science research, that can improve understanding of the biology of breast cancer.
Methods: Participating BCSC sites collect core variables in standardized structures and data are linked over time. Examples of women level data include demographic characteristics, risk factors, prior mammography use, recent breast symptoms, and prior breast procedures. Data are linked to radiology and benign and malignant pathology data.
Results: The counties in the BCSC represent approximately 5% of the U.S. population. To date, the BCSC has collected data for >1.9 million women and > 6.5 million mammography exams, associated with > 72,000 breast cancers. The racial and ethnic characteristics of the BCSC population are comparable to US women. In addition to examining the effectiveness of mammography screening, data have been used for modeling outcomes, to identify populations to invite into studies, and to develop statistical methods.
Conclusions: We invite researchers to apply to use BCSC data. The size and the longitudinal nature of the data make the BCSC a rich resource for continued research in breast cancer control. Please visit: http://breastscreening.cancer.gov/ for more information about the BCSC and the process for working with the BCSC.

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Molecular diagnostics and follow-up care in individuals with an inherited predisposition to cancer
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Since 1990 a clinical-genetics registry for patients with strong history of familial cancer is being maintained at the N.N. Blokhin Russian Cancer Research Center in Moscow. A multi-disciplinary approach of clinical-genetic data of family members provide genetic and clinical counseling, tumor tissue analyses, molecular genetic diagnostics, predictive testing and surveillance examinations. Genetic diagnosis of hereditary breast/ovarian cancer, assosiated with BRCA1/2 mutations have been confirmed in 157 patients from 124 families. Predictive testing was performed in 78 healthy relatives: in 31 women and 4 men genetic predisposition was found. With median follow-up of 33 (12-62) months ovarian cancer was diagnosed following breast cancer in 14 carriers of BRCA1 mutations. Contralateral breast cancer was observed in 11 patients with BRCA pathology genotypes. Among healthy carriers, 7 cases of breast cancer were detected. Prophylactic mastectomy and reconstruction was done in 12 patients. 16 patients and 6 healthy carriers underwent prophylactic adnexectomy after genetic testing. MEN2 syndrome was diagnosed in 28 families, in which 21 patients and 7 relatives were carriers of germline mutations of RET proto-oncogene. Prophylactic thyroidectomy was performed in all healthy carriers. Microfoci of medullary thyroid carcinomas was found in 3 cases.

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Prevention Practices and Family History of Cancer of Medical Students in the United States.
Coughlin SS, Frank E, Carrera J, Saraiya M.
Purpose: Few studies have examined whether physicians' own family history of cancer influences what they do for their patients. To clarify the role of family history in medical students' patient counseling and screening for cancer, we examined data from the Healthy Doc=Healthy Patient study.
Methods: We surveyed medical students (n=2,316) in the Class of 2003 at freshman orientation, entrance to wards, and senior year in a sample of 16 medical schools (response rate=80.3%). Using a self-administered questionnaire, the students were asked to indicate whether they had colorectal cancer, breast cancer, lung cancer, skin cancer, prostate cancer, or other cancers now or in the past, or whether a parent, sibling or grandparent had these conditions. They were also asked how relevant they think counseling or early detection of cancer will be in their intended practice. The main outcome measures were relevance of prevention counseling to medical students' intended clinical practice, and seniors' frequency of counseling typical general medicine patients about cancer prevention. SUDAAN and logistic regression were used in the analysis.
Results: Family history of cancer was generally not related to current counseling or perceived future counseling relevance, though family history of skin cancer did increase the odds that a student thought that recommending a clinical skin exam was highly relevant to their intended practice (adjusted OR=1.56, 95% CI 1.01, 2.43).
Discussion: These results suggest that physician family history may influence their patient skin cancer early detection practices but not other preventive practices.

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Cervical Cancer Screening Among Women in Metropolitan Areas of the United States by Individual and Area-based Measures of Socioeconomic Status, 2000-2002.
Coughlin SS, King J, Ekwueme DU, Richards TB.

Purpose: To measure the association between both individual and area-based measures of socioeconomic status (SES) and rates of Papanicolaou (Pap) testing among women living in major U.S. metropolitan areas.
Methods: We analyzed 52,210 female respondents to the 2000 and 2002 Behavioral Risk Factor Surveillance System (BRFSS) telephone surveys, who were at least 18 years old and had not had a hysterectomy at the time of the interview, and who resided in metropolitan statistical areas with a population of ¡Ý1.5 million in 2000. We obtained county-level area SES measures from the 2000 U.S. Census.
Results: Only 75.4% of women with household income of < $15,000 per year had received a Pap test in the previous 3 years, compared with 92.2% of women with a household income of $50,000. Similarly, only 77.5% of women with less than a high school education had received a Pap test, compared with 91.7% of college graduates. Multivariate analysis found education level to be positively associated with Pap testing rates, especially among women residing in areas where a relatively low percentage of residents had a low education level ($p < .0001$).
Conclusions: Studies are needed to determine how to increase the percentage of women having Pap tests among women in low-income and low-education populations.

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Mutation analysis of the RET proto-oncogene in Russian patients with sporadic and inherited medullary thyroid carcinoma.

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Medullary thyroid carcinoma (MTC) is endocrine tumor originating from C-cells of the thyroid and accounting for 4-20 % of all thyroid carcinomas. The MTC may develop sporadically (70-75 %) or as a part of the autosomal dominantly inherited syndromes: multiple endocrine neoplasia type 2 (MEN 2A, MEN 2B) and familial MTC. Activating germ-line mutations of the RET proto-oncogene have been identified as the underlying cause of inherited MTC. RET mutations may also take part in the pathogenesis of sporadic MTC. We have analyzed the mutations of the RET gene in 21 individuals from 11 families with MEN 2 syndromes and in 26 patients with sporadic MTC applied for the help to Russian NN Blokhin Cancer Research Center. Molecular examination of the five exons of the RET proto-oncogene (10, 11, 13, 15 and 16) revealed seven different somatic mutations (including four new ones) in 41 % patients with sporadic MTC. The most common mutation was in codon 918 (23 %): substitution of threonine for methionine in the cytoplasmic tyrosine kinase domain of the RET protein. The presentation will identify additional mutations and subsequent treatment.

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Smoking Status And Cervical Cancer Screening Among A Tri-racial Rural Population

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Objectives: To assess the association of smoking status and being within cervical cancer screening guidelines among medically underserved women participating in an intervention designed to increase mammography screening.
Methods: A baseline survey was completed by 815 women who belong to three racial groups (Native American, African-American, White) living in a rural county in North Carolina. Women were categorized as high risk for developing cervical cancer if they had one of the following: more than 2 sexual partners, age less than 18 years at first sexual intercourse, former or current smoker, were treated for a sexually transmitted disease (STD), or had a partner with a treated STD.
Results: Forty-two percent were Native American, 33% African American, and 25% White. The age-adjusted odds of being within risk appropriate Pap guidelines for someone who never smoked were 1.80 times (CI: 1.3, 2.49) the odds of someone who currently smokes ($p<0.001$). The odds of being within risk appropriate Pap guidelines for someone who formerly smoked were 1.52 times (CI: 1.3, 2.25) the odds of someone who currently smokes ($p=0.036$). No differences by racial group were documented.
Conclusions: The results suggest that women who smoke are less likely to be within risk appropriate cervical cancer screening guidelines. Interventions to increase screening need to address this group of women as smokers are at increased risk for developing cervical cancer.
National Cancer Institute Grants CA7202204 and CA57707-08

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Deconstructing Race: Ethnic Patterns of Coping with the Threat of Breast Cancer in Relation to Mammography Screening.

Kudadjie-Gyamfi E, Magai C.

Purpose: We sought to determine the role of characteristic coping with the threat of breast cancer in adherence to mammography screening, and the extent to which ethnicity moderates the relationship between coping styles and screening.
Methods: Three hundred and eight women from three major ethnic groups of Black, Latina and White and comprising seven ethnic subpopulations of immigrant English Caribbeans, Dominicans, Puerto-Ricans, Eastern Europeans, Haitians and U.S. born African Americans and European Americans participated in this study. They were interviewed by trained interviewers fluent in the participant's native language to examine participants' breast screening habits and their likelihood of use of various coping styles in response to an imagined breast cancer diagnosis using a modified Ways of Coping Questionnaire (Folkman & Lazarus, 1988).
Results: Ethnic subpopulation differences in the four coping styles identified (problem solving, social support, positive reframing and avoidance), and in the relation between mammography screening and coping styles were obscured by major ethnic groupings. Specifically, differences found between and within major ethnic groups did not hold for all ethnic subpopulations, particularly among Latinas.
Conclusion: Research involving behavior that is likely to be impacted by culture, such as health preventive behaviors, must account for ethnic subpopulations.

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Patient-Reported Colorectal Cancer Screening Barriers. Jones RM, Johnson RE, Rothemich SF, Kuzel AJ, Woolf SH.

Purpose: We assessed colorectal cancer (CRC) screening barriers reported by patients at two Virginia family practice clinics.
Methods: A total of 317 randomly selected adults age 50 and older answered an open-ended question assessing "the most important reason" why people might not undergo CRC screening. We coded the barriers, generated simple descriptive statistics, and used regression to identify demographic characteristics associated with barriers. The barriers cited by ever-screened and never-screened patients were also compared.
Results: Approximately 28% of the sample was age 65 or older, 65.3% were white and 67.5% had undergone CRC screening per guidelines. The most important reasons for not being screened were: fear/being afraid (10.1%), unpleasant preparation ("prep") (7.9%), being unaware/lack knowledge (7.9%), pain (7.6%), and no insurance/cost (6.0%). Women were more likely than men to cite fear (13.9% vs. 3.9%, p-value=<0.01) and an unpleasant prep (11.9% vs. 1.0%, p-value=<0.01) as barriers. After adjustment, the proportion citing unpleasant prep as a barrier was higher among those who had received sigmoidoscopy compared to those who never had sigmoidoscopy (9.3% vs. 2.3%, p-value=0.03). No other statistically significant differences in reported barriers were found by screening modality.
Conclusions: These findings provide new information regarding CRC screening barriers among a patient population with relatively high screening adherence. Research assessing barriers specific to each of the individual CRC screening tests would help in the development and implementation of targeted interventions to increase screening rates.

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Decision Stage and Screening Preference in Colorectal Cancer Screening

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Purpose: Colorectal cancer (CRC) screening test use is low. Data suggest that people differ in terms of screening test preference. We assessed decision stage for fecal occult blood testing (FOBT) and flexible sigmoidoscopy (FS) and overall screening preference in a randomized trial designed to test tailored message impact on screening.

Methods: 1,564 older (>50 years) adult patients completed a baseline survey. Survey items measured demographics, screening perceptions, and decision stage for FOBT and FS. The distributions of "test-specific decision stage" (i.e., Decided Against, Never Heard Of, Undecided, and Decided to Do) for FOBT and FS were compared using McNemar's test. "Overall CRC screening preference" (i.e., Prefer Not to Screen, Never Heard of Screening, Undecided About Screening, and Prefer to Screen) was assigned in accordance with decision staging.

Results: Participants tended to be female (66%), non-White (58%), unmarried (58%), and less than college educated (55%). Test-specific decision staging differed significantly ($p<0.001$). Staging for FOBT and FS, respectively, was Decided Against (1%, 2%), Never Heard Of (14%, 25%), Undecided (48%, 43%), and Decided to Do (37%, 30%). Distribution of overall CRC screening preference was: Prefer Not to Screen (<1%), Never Heard of Screening (8%), Undecided About Screening (42%), and Prefer to Screen (50%).

Conclusions: Participants differed in FOBT and FS screening decision stage. Most participants were either uncertain about or had decided to do screening. Research is needed to determine if screening preference predicts screening use.

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Coping Responses of Seven Ethnic Groups to Prostate Cancer Threat: Commonalities and Variations

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Despite increasing awareness of prostrate cancer as a major public health concern, and despite growing evidence of the important influence of personality variables over cancer screening and cancer care choices, differences in styles of dealing with prostate cancer threat and worry have only recently been given attention. This paper examined the role of seven coping styles in relation to cancer screening behavior in a variety of ethnic groups. Three hundred and eight men comprising seven ethnic groups were assessed on prostate screening behavior and coping style. Within our sample, there were both similarities and variations in the use of coping among the ethnic groups and the impact. These results highlight the important of using ethnic subgroupings rather than broad racial categories when studying health care choices. Suggestions are given for cancer screening interventions.

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OF CATS, CAUTION, AND CANCER SCREENING.

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Questions surrounding cancer screening can arise in unexpected settings. The author's cat, an 11 year old domestic short hair male, recently spent two days in a feline intensive care unit due to congestive heart failure and accompanying respiratory distress. His workup revealed cardiomyopathy and cardiomegaly. Blood work further revealed severe hyperthyroidism; that condition, believed to have been long-standing but undiagnosed, is thought to have led to hypertension, which in turn led to heart disease. The patient's primary care veterinarian had never suggested a screening exam for hyperthyroidism, a common problem in cats. Because the author is a cancer screening researcher and is familiar with the potential harm associated with screening, she did not inquire about screening exams. If hyperthyroidism had been detected at an early stage and treated, it is likely that the heart disease would be much less severe and prognosis much more favorable. The patient's circumstance led the author to examine her views on disease screening in general and specifically in human applications. After much contemplation, she continues to agree that mass cancer screening should only be advocated after a reduction in site-specific mortality is observed in randomized controlled trials. Her belief is now very strong that physicians, nurses, and other health educators need to talk with their patients about cancer screening options and the potential benefits and harms they carry, especially in the instance of untested modalities. Only in an informed decision-making environment can the best prevention strategies be identified.

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Change in Body Size and the Risk of Colorectal Adenomas in a Multi-Ethnic Sample of Participants with and without Glucose Intolerance

Sedjo R, Byers T, Tooze J, D'Agostino R.

Purpose: The aim of the study was to examine the association of BMI and weight change with the risk of adenomas. Methods: The Insulin Resistance Atherosclerosis Study was a multi-center prospective cohort study conducted among participants with normal or impaired glucose tolerance or non-insulin requiring type-2 diabetes. Weight and height as well as other risk factors were measured at three time points with colonoscopies conducted at the last time point. Participants were stratified by sex and univariate and multivariate analyses were conducted to assess differences between participants with and without an adenoma.

Results: Among the 610 participants who underwent a colonoscopy, the mean age was 64 years and the majority were women (54.6%). Participants with adenomas were more likely to be males ($P=0.017$). After adjustment for age, clinic, ethnicity, diabetes status, and smoking status, BMI at time of colonoscopy was associated with adenomas in women (highest vs. lowest tertile BMI OR= 4.51, 95% CI 1.61-12.62) but not in men (OR=1.23, 95% CI 0.49-3.10). After adjustment for the same variables, women participants who had gained >5 lbs versus those who had lost or maintained weight over ten years had an increased risk of adenomas (OR=3.88, 95%CI 1.24-6.72). This association was not found in men (OR=1.47, 95% CI 0.59-3.70). No independent association was detected between ethnicity and risk of adenomas.

Summary: These data indicate that there is an increased risk of colorectal adenomas with increased weight gain and higher BMI in women but not in men.

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Relationships of HPV Type, Viral Load & Age to Cytologic Abnormality

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The equivocal or mildly abnormal Pap smear is the cytologic manifestation of HPV infection. With time, persistent carcinogenic infection can lead to cervical precancer/cancer. Limited studies have adequately examined type-specific effects of HPV infection, viral load and age on cytology. To examine the relationships of these factors with cytologic diagnoses, we conducted an analysis of 1,454 women infected with a single HPV type using a 10,000 women population-based prospective study in Guanacaste, Costa Rica. Enrollment cervical specimens were tested for >40 HPV types by MY09/MY11 L1 consensus primer PCR. Stratifying by age, we calculated the frequency of type-specific cytologic abnormality and examined viral load using PCR signal-strength. Our analysis reveals that overall, 21.6% of single HPV infections resulted in equivocal or worse cytologic diagnoses ranging from 0%-80% based on HPV type. Having HPV16, the cause of >50% of cancers, resulted in only 38.5% abnormality. Nonetheless, infection with HPV16 or another carcinogenic type resulted in more abnormalities as viral load increased (Ptrend=<0.0001 and <0.001, respectively). Specifically, HPV16 positive women aged 35-55 years with high viral loads had the most cytologic abnormalities (77%). Our results suggest that cytologic abnormality varies by HPV type and age and that in women with HPV16 and other carcinogenic types, viral load may be a predictor of abnormal cytology.

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Total vegetable and fruit intake and lung cancer: a systematic review

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Purpose: To systematically review the epidemiologic evidence on vegetable and fruit consumption and the risk of developing lung cancer. This work was funded by WCRF/AICR for their forthcoming report on food, nutrition, physical activity and the prevention of cancer, and their conclusions may differ from ours as WCRF includes additional data and uses different criteria for judgment.
Methods: Several bibliographic databases were searched to identify epidemiologic studies published between 1966 and 2005 that assessed the association between total fruit and total vegetable consumption and the risk of developing lung cancer. After duplicate abstract and full-text review, relevant cohort studies (n=24) and case-control studies (n=45) were identified.
Results: In cohort studies, summary random effects relative risks for highest-versus-lowest consumption were 0.75 (95% CI: 0.63-0.90), 0.81 (95% CI 0.73-0.89), and 0.82 (95% CI 0.74-0.92) for combined fruits and vegetables, total fruits, and total vegetables, respectively. Strong dose-response trends (per serving/day) were present for cohort studies; for example, summary RRs were 0.94 (95% CI 0.90-0.98) for total fruits and 0.95 (95% CI 0.91-0.99) for total vegetables. The evidence from case-control studies was similar.
Conclusions: A large body of epidemiological evidence suggests that people who eat more total fruits and total vegetables have a lower risk of developing lung cancer than those who eat less. It remains uncertain whether this is a genuine association or a remnant of residual confounding by smoking.

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Second Cancers in the Primary Carcinoma in situ of the Breast.

Chuang SC, Zhang ZF

Introduction: This study was aimed to explore the risk of second cancer sites following a primary breast CIS using the SEER cancer registry, 1973-2002. Methods: SIRs and the 95% CIs were used to measure the risk of second cancer of this population. Site-specific cancer incident rates for female from the US population were obtained from and were multiplied by the accumulated PY in the study cohort to estimate the expected number of cancer cases. The null hypothesis is that the incidence of second cancer in this population should be equal to the incidence of the first primary cancer in the general female population if there are no other risk/protective factors involved.
Results: A total of 44156 female patients were diagnosed as first primary breast CIS in SEER between 1973 and 2002. Among them, 26117 were DCIS and 6541 LCIS. The second primary cancer must be diagnosed 6 months after the diagnosis of first cancer. By this definition, 4253 patients developed second primary cancers and 3021.62 were expected leading to a SIR=1.41 (95% CI=1.37-1.45); in DCIS, 2445 were observed and 1811.58 were expected leading to a SIR=1.35 (95% CI=1.30-1.40); in LCIS, 699 were observed and 486.12 were expected leading to a SIR=1.44 (95% CI=1.33-1.55).
Conclusion: Second cancer risks were increased in breast CIS. LCIS seemed to be associated with higher second cancer risk especially for invasive breast cancer. Most increased cancer risk associated with DCIS was not seen in LCIS probably because of smaller sample size. Genetic, hormonal, and treatment factors might be associated with the development of a second cancer.

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The Potential Association Between Nonmelanoma Skin Cancer (NMSC) and Subsequent Development of Secondary Non-cutaneous Primary Cancers.

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Purpose: We investigated whether individuals with NMSC have an increased risk of developing subsequent non-cutaneous primary cancers compared to individuals without NMSC. Methods: A cohort study, established in 1989 with follow-up through 2000, was conducted in Washington County, Maryland. The analytic cohort consisted of 18,720 participants who were older than 30 years of age at baseline, white, did not develop NMSC as a first cancer after 1990, and who had complete data. Ascertainment of NMSC and other malignancies was accomplished with linkage to the Washington County Cancer Registry.
Results: Individuals who had a confirmed diagnosis of NMSC had an increased risk of developing subsequent non-cutaneous primary cancers compared with individuals without NMSC [age-adjusted odds ratio (OR), 1.56; 95% confidence interval (95% CI), 1.17-2.08]. Further adjustment for sex, body mass index, smoking, education, treatment of HBP and high cholesterol did not significantly alter the results [OR (95% CI); 1.54 (1.16-2.06)].
Conclusions: This community-based cohort study provides evidence that NMSC is a risk marker for subsequent non-cutaneous malignancies after adjusting for individual-level risk factors, a feature lacking in the previous registry-based studies on this topic. Future investigations to explore the underlying reasons for this association are warranted.

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Oral contraceptives use and endometrial cancer, a population-based case-control study in Shanghai, China
Meng Hua Tao, Wang Hong Xu, Wei Zheng, Zuo-Feng Zhang, Yu Tang Gao, Zhi Xian Ruan, Jia Rong Cheng, Yong Bing Xiang, and Xiao Ou Shu.

Oral contraceptives (OCs) use has been considered a protective factor for endometrial cancer in several epidemiological studies, however, few studies have been conducted in Chinese populations, where new cases of endometrial cancer account for 6.8% of the world incidence of this disease. We evaluated the association between OCs use and endometrial cancer risk in a population-based case-control study of 1204 incident endometrial cancer cases and 1212 frequency-matched controls among Chinese women in Shanghai, China. Logistic regression modeling was used to estimate adjusted odds ratios (OR) and their 95% confidence intervals (95% CI). In our study population, 220 cases (19.7%) and 301 controls (25.8%) reported having ever used OCs. Ever use of OCs was associated with an OR of 0.76 (95% CI 0.61-0.94), after adjusting for known risk or protective factors for endometrial cancer. The risk of endometrial cancer decreased with increasing duration of OCs use (trend test, $p<0.01$) with the OR for more than 72 months of use being 0.52 (95% CI, 0.31-0.89). The effect of OC use did not appear to vary by age at first use of OCs, and the effect remained 25 or more years after cessation of use. These results suggest that OCs use may confer long-lasting protection against endometrial cancer.

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Diffusion of Aromatase Inhibitors for Breast Cancer
Aiello EJ, Geiger AM, Pardee R, Buist DSM, Hart G, Greene SM, Lamerato L, Field T, Wagner E

Purpose: We evaluated the diffusion of aromatase inhibitors in two healthcare delivery systems participating in the Cancer Research Network by examining prescribing patterns for antiestrogen breast cancer treatments relative to the dissemination of treatment trial results (presentations and publications).
Methods: We retrieved automated pharmacy data for women diagnosed with breast cancer from 1996-2003 (n=3,444). Because we were interested in physician prescribing patterns rather than actual treatment received, we considered users to be women with >=1 filled aromatase inhibitor prescription through 2004. We examined dispensing, time between diagnosis and first dispensing, year of first antiestrogen dispensing, and compared the demographic and tumor characteristics of users and non-users.
Results: Among 2,158 women with estrogen-receptor positive breast cancer, 21% received aromatase inhibitors, 36% within one year of diagnosis and over 50% within 24 months. Initial presentations of clinical trial results occurred late in 2001 through mid-2002; the proportion of dispensings among women with estrogen-receptor positive breast cancer increased from 6% in 2001, to 18% in 2002, and 42% in 2004. Sixty percent of aromatase inhibitor users were 45-64 years old and 61% were stage II or higher.
Conclusions: In two healthcare systems that promote evidence-based medical practice, we observed increased use of aromatase inhibitors alongside dissemination of randomized trial results. Recent prescribing patterns have followed guidelines from these trials.

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Supplementary and Dietary Vitamin D Intake and Renal Cell Cancer Risk
Wilson RT, Wang J, Chinchilli V, Richie J, Moore L, Albanes D.

Background: Renal cell cancer (RCC) is the 3rd most rapidly increasing cancer in the US, and Vitamin D has a suspected preventive role. Purpose: Determine the risk of RCC associated with supplemental and dietary Vitamin D intake. Methods: Cases were identified through the Alpha Tocopherol Beta Carotene (ATBC) Trial Cohort (1985-2002). A detailed dietary history, fasting serum sample and height and weight were obtained at recruitment. Individuals diagnosed with prior cancer or using vitamin E, A, or beta-carotene supplements were excluded. Person years of observation were counted from the date of randomization until diagnosis of RCC, death or end of study. Dietary intake variables were energy adjusted. The Hazard Ratio (HR) of RCC was determined by stepwise Cox Proportional Hazards regression including all suspected variables. Multiplicative interactions were determined between Vitamin D intake and each variable remaining in the final model. Results: There were 228 RCC cases among 26,758 men. The highest quartile of total vitamin D intake was associated with an increased risk of RCC (HR=1.6, 95% CI:1.13-2.41, >7.4 ug/day, p-trend=0.007), compared with the lowest quartile, adjusting for BMI, hypertension, cholesterol, quercetin, and pack years of smoking. Supplemental vitamin D at the highest intake was also associated with increased risk (HR=3.0, 95% CI: 1.13-8.22, >12.5 ug/day). Interaction terms for cholesterol and quercetin with total Vitamin D intake were statistically significant ($p<0.05$). Conclusions: We observed an increased risk of RCC in male smokers with the highest levels of Vitamin D intake. These findings do not support a preventive role of dietary vitamin D in relation to kidney cancer incidence.

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Fee-For-Service versus HMO: Analysis of Cancer Stage at Diagnosis among Ohio Medicare Beneficiaries
Beaird H, Diaz M, Koroukian SM.

Purpose: To compare cancer stage at diagnosis among Ohio Medicare beneficiaries diagnosed with breast, colon, or prostate cancer between those enrolled in health maintenance organizations (HMOs) and those receiving care through the traditional fee-for-service (FFS) system.
Methods: Patients 65 years of age or older diagnosed with incident breast, colorectal, or breast cancer in 2000 - 2001 were identified from the Ohio Cancer Incidence Surveillance System (OCISS) and their records were linked with Medicare files to obtain HMO enrollment status. The resulting sample sizes were 6,493, 7,130 and 7,830, respectively for each of the cancer sites. Using logistic regression, we assessed the association between HMO enrollment and cancer stage after adjusting for patient demographics. Results: There was an overall trend for each cancer site indicating that HMO enrollees were less likely to be diagnosed at distant or regional stages. However, the resulting odds ratios (ORs) were only slightly below one (0.86 - 0.98) and did not reach statistical significance. Further comparisons suggested that HMO enrollees were also less likely to be unstaged (ORs = 0.81 - 0.89). However, only the OR for colon cancer (0.82) was found to be significant ($p = 0.04$).
Conclusions: Contrary to previous studies, our findings did not support the presence of a positive association between cancer stage and HMO enrollment. Although it is likely that providing coverage for cancer screening in more recent years may have improved detection among FFS beneficiaries, additional investigations are warranted to better explain these findings.

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Receipt of surveillance mammograms and mortality after breast cancer therapy.
Lash TL, Fox MP, Dluzniewski P, Buist DSM, Silliman RA, for the CRN BOW Investigators.

Purpose: We investigated the relation between receiving mammograms to screen for breast cancer recurrence (surveillance mammograms) and mortality rates in a cohort of patients age sixty-five years and older at diagnosis between 1990 and 1994.
Methods: Patients were diagnosed with stage I or II breast cancer at six healthcare delivery systems. Medical record review ascertained demographic, tumor, treatment, comorbid disease, and post-treatment surveillance mammogram information. The National Death Index reported date and cause of death over five-years. We estimated the adjusted rate ratio relating surveillance mammograms to all-cause mortality.
Results: We enrolled 1859 women, of whom 382 died and 102 disenrolled. Each surveillance mammogram was associated with a reduced rate of all-cause mortality (RR=0.56, 95% CI 0.49–0.64). We observed a significant trend (p=0.0005) in the rate ratios relating all-cause mortality with each additional mammogram; mortality decreased as the number of mammograms increased.
Summary: While these results suggest that surveillance mammograms protect against mortality, the effect may also derive from underlying differences in medical care use or preventive health behaviors.

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County Poverty and Late Stage Cancer: Combined State Data from the North American Association of Central Cancer Registries (NAACCR)
Greenlee RT, Howe HL
Purpose: We evaluated the relation of county-level poverty with risk of late stage cancer for 18 anatomic sites where stage influences survival. Methods: The North American Association of Central Cancer Registries compiles an annual research file from state registries exceeding high quality and completeness standards. Stratified analysis and logistic regression were applied to 2.3 million incident cancers (1997-2000) from 32 states representing 57% of the US population. Results: For 12 sites, higher county poverty significantly increased risk of late stage diagnosis, despite adjustment for age, sex, race and urban/rural gradient [odds ratio (95% confidence interval) comparing highest (> 30%) to lowest (<10%) poverty: larynx 2.4 (1.7-3.2), oral cavity 2.1 (1.7-2.6), melanoma 2.0 (1.5-2.8), female breast 1.9 (1.7-2.1), prostate 1.7 (1.5-1.9), corpus uteri 1.6 (1.3-1.9), cervix 1.6 (1.3-2.1), bladder 1.6 (1.2-2.1), colorectum 1.4 (1.3-1.5), stomach 1.3 (1.1-1.5), esophagus 1.3 (1.1, 1.7), kidney 1.3 (1.1-1.5)]. For 4 cancers (testis, thyroid, liver, pancreas) modest poverty effects were not significant. There was little effect for lung and an opposite trend for ovarian. Poverty effects were somewhat stronger for younger and urban cases but generally comparable across gender and race.
Conclusions: In this large population-based study, higher county poverty independently predicted late stage cancer. Importantly, this held for several non-screenable cancers, suggesting improved access to good medical care could be a viable strategy to reduce mortality for cancers without practical screening approaches.

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Dietary Carotenoid Intake and Lung Cancer: A Systematic Review
Gallicchio L, Boyd K, Shiels M, Alberg AJ, for the Johns Hopkins University Diet Review Team.
Purpose. To systematically review the epidemiologic evidence on dietary carotenoid intake and lung cancer risk. This work was funded by WCRF/AICR as part of their report on food, nutrition, physical activity, and the prevention of cancer. The conclusions of that report may differ from those in this work as that report includes other data and uses different criteria for judgement.
Methods. Bibliographic databases were searched from 1966 to 2004 to identify epidemiologic studies assessing dietary carotenoid intake and lung cancer risk. After duplicate abstract and full-text review, 11 cohort studies and 16 case-control studies were identified.
Results. In the cohort studies, statistically significant inverse associations between total dietary carotenoid intake and lung cancer risk were observed in both the dose-response (summary risk ratio (sRR) 0.97; 95% confidence limits (CL) 0.96, 0.99; per 1,000 μg/day) and the highest-versus-lowest category meta-analyses (sRR 0.80; 95% CL 0.72, 0.88). A similar association was observed in the highest-versus-lowest category meta-analysis of the case-control studies (sRR 0.73; 95% CL 0.58, 0.82). Meta-analyses were not consistent in showing either positive or negative associations between the dietary intake of specific carotenoids (such as beta-carotene) and lung cancer risk.
Conclusions. The findings of this review suggest that dietary carotenoid intake is inversely associated with lung cancer risk, but do not pinpoint which specific carotenoids may be responsible for the decreased lung cancer risk.

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The Absence of Racial Disparities in Receiving Any Bladder Cancer Treatment in a Medicare Population.
Datta GD, Neville BA, Datta NS, Earle C.
Purpose: We assessed the relation between racial disparities and access to health care in individuals receiving any type of treatment for bladder cancer; as research has found that Black patients receive treatment for bladder cancer at lower rates than White patients.
Methods: We identified 20,415 (696 Black and 19,719 White) Medicare insured, male bladder cancer cases diagnosed between 1992 and 1999 from the SEER-Medicare database. We constructed logistic regression models using 'no treatment' as the outcome, adjusting for age, number of co-morbidities, and 'ecologic' socioeconomic status (percent of people in poverty in the patient's census tract). Analyses were stratified by stage at diagnosis, as we found a significant interaction between race and stage.
Results: There were no observed differences in the probability of not receiving treatment according to race among men with localized (Odds Ratio [OR]=1.1, 95% Confidence Interval [CI]=0.9 – 1.4), regional (OR=1.1, CI=0.8 – 1.6), or distant (OR=0.8, CI=0.3-2.0) disease in this Medicare population. Among patients with regional or distant disease, increased age, increased number of co-morbid conditions, and increased percentage of census tract poverty predicted non-treatment of bladder cancer (all $p<0.05$).
Summary: These data suggest that racial disparities in receiving bladder cancer treatment may not exist in insured populations. Efforts should be made to provide patients with financial assistance if cost is a source of major concern when making treatment decisions.

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Predictors of Recurrence after Breast Cancer in Women Aged 65 Years and Older. Geiger AM, Thwin SS, Buist DSM, Silliman RA, on behalf of Cancer Research Network BOW Investigators. Purpose: We conducted a retrospective cohort study to examine demographic, tumor and treatment factors associated with recurrence after breast cancer in older women. Methods: Women aged 65 years or older diagnosed with stage I or II breast cancer from 1990 to 1994 were identified from cancer registry or administrative databases at six healthcare delivery systems, then followed for 10 years or until death or disenrollment from the healthcare system. Trained abstractors reviewed medical records to confirm eligibility and gather data on recurrence, tumor, treatment and demographic factors. We used logistic regression to examine predictors of recurrence adjusting for age, race/ethnicity, tumor size, grade, node positivity and receipt of adjuvant therapy. Results: Of 1,859 women meeting entry criteria, 34% were aged 65 to 69, 46% were aged 70 to 79 and 20% were aged 80 years or older. During follow-up 303 (16.3%) women experienced a recurrence of their breast cancer; the median time to recurrence was 2.97 (range .12 to 9.9) years after the initial diagnosis. Failure to receive standard primary tumor therapy (breast-conserving surgery with radiation therapy or mastectomy) was associated with recurrence (OR=1.8, 95% CI=1.1-2.8) in the multivariable model. Summary: Older women benefit from receipt of standard primary tumor therapy for breast cancer.	A Systematic Literature Review of Total Alcohol Consumption and Lung Cancer. Shiels M, Boyd K, Alberg A Purpose: To systematically review the epidemiologic evidence on the association between alcohol intake and lung cancer. This work was funded by WCRF/AICR for their forthcoming report on food, nutrition, physical activity and the prevention of and cancer, and their conclusions may differ from ours as WCRF includes additional data and uses different criteria for judgment. Methods: Several bibliographic databases were searched to identify epidemiologic studies that evaluated the association between alcohol intake and lung cancer risk and were published between 1966 and 2005. Pertinent cohort (n=22) and case-control (n=20) studies were identified after duplicate abstract and full-text review. Results: In cohort studies, total alcohol consumption was associated with increased risk of lung cancer in highest-versus-lowest-category meta-analysis (summary RR (sRR) 1.27; 95% CI 1.04-1.54), but this association almost completely disappeared when limited to studies that adjusted for smoking (sRR 1.06; 95% CI 0.96-1.17). This same general pattern was seen for dose-response analyses and was mirrored in the evidence from case-control studies. When stratified by alcohol type and limited to smoking-adjusted studies, wine consumption was inversely associated with lung cancer risk (e.g., highest-versus-lowest category sRR=0.73; 95% CI 0.56-0.94), whereas beer and spirits were not. Conclusions: After simply accounting for adjustment for cigarette smoking, the evidence for a link between total alcohol consumption and lung cancer from the studies analyzed was very weak. The possible heterogeneity in associations by type of alcohol warrants further inquiry.
59	**60**
Frontline Workers in Cancer Data Collection and Management: Critical Issues in the Cancer Registrar Professions. Chapman S, Mulvihill L. Purpose of Study: We studied the Cancer Registrar workforce to gain a better understanding of demographics, scope of work, job satisfaction, current size, and projections of future demand. Methods: Our methods included review and analysis of secondary data, in-depth interviews with 30 experts, 6 focus groups, and an online survey of 990 practicing Cancer Registrars. Results: Survey respondents were 93% female, mean age=48, 86% Caucasian, 68 % with AA or BA degree, 85% certified in the profession (CTR), and work primarily in hospital (50%) or state (35%) registries. Satisfaction scores and job commitment were rated highly except in reward for efforts (52%) chances for promotion (43%) and salary increases (45%). Intent to leave the profession is higher among younger workers, age 40 or less. Conclusions: Cancer Registrars are a little known profession that has a vital role in cancer surveillance, research, and treatment. They are generally satisfied except in the area of recognition and compensation. Raising the public profile of this profession is critical in ensuring an adequate current and future supply of these workers. We estimate a demand for at least 800 new workers and replacement workers for expected retirements of Cancer Registrars within the next decade.	An Evaluation of Breast Cancer Risk Assessment Tools on the Web. Gurmankin Levy A, Sonnad S, Kurichi J, Sherman M, Armstrong K. Web risk calculators (WRCs) are widely used and the risk information they provide may impact users' medical decisions. Thus, it is critical to evaluate these WRCs. We searched for "cancer risk" in 5 web search engines and visited the first 1,000 hits from each to find breast cancer WRCs. We reviewed the content of the 11 WRCs and had 35 female subjects complete each one. 3/11 WRCs cited source information and 10/11 included disclaimers. The WRCs varied in the risk factors used for risk calculation: 9/11 included age, 6/11 included race, 5/11 included menopausal status, 4/11 included gender, height, weight, hormone use, 3/11 included personal cancer history, and 2/11 included Jewish ancestry. The output format varied across websites: 5/11 used percents only, 3/11 used comparative statements only, and 3/11 used a test score with verbal interpretation. The calculator output varied within-subjects. One subject's risk was reported as each of the following by different sites: above average, average, 17.7% in lifetime, 30% in next 30 years, 7.7% in next 30 years and 18.4% in lifetime. The variation across WRCs raises questions about the accuracy of the information provided. Inaccuracies may lead users to make inappropriate medical decisions.

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Ascending versus Descending Colon Cancer Incidence in Pennsylvania, 1994-2002. Liu Y, Wilson RT, Lengerich EJ Background: It has been hypothesized that the differences in the etiology or utilization of screening methods exist for ascending (AC) and descending (DC) colon cancer. Purpose: Determine whether geographic clustering of AC cancer incidence differs from that of DC cancer and whether area differences in AC and DC cancer are related to demographic factors, screening prevalence, or residence. Methods: We conducted a state-wide, county-level analysis of 1994-2002 incident cases identified by the Pennsylvania Cancer Registry. Self-reported prevalence of colorectal cancer screening was determined by the Behavioral Risk Factor Surveillance System. Principal component analysis of data from the 2000 Census was used to create an SES index. The SaTScan statistic was used to identify geographic clustering and Poisson regression estimated rate ratios (RR) and 95% confidence intervals for possible demographic risk factors. Results: We identified 31,775 AC and 22,850 DC cancer cases. Geographic clustering occurred in eastern and western PA, but was not appreciably different by subsite (eastern: Observed/Expected(O/E)=1.20 for AC and O/E=1.24 for DC; western: O/E=1.08 for AC and O/E=1.11 for DC). However, the size of the clusters was substantially attenuated following adjustment for SES. Adjusted for gender, race and age, low SES was significantly associated with elevated DC cancer incidence (RR=1.12; 95% CI=(1.06, 1.18)), but not AC cancer incidence. Screening prevalence was not associated with incidence. Conclusion: SES was associated with increased DC cancer but not AC cancer incidence, and SES attenuated the geographic clustering of both cancer sites.	Development of Benign Breast Registry to Assess Valid Endpoints (BeBRAVE). Stearman B, Daly M, Masny A, Gillespie K, Sheikh Z. Purpose: As part of establishing a registry of individuals with biopsy-proven benign breast disease (BBD), a needs assessment was conducted to help develop support/decision-making resources for patients and providers. Methods: Two versions of pilot surveys assessed the informational and decision-making needs of patients (N=65) and providers (N=12). The self-administered surveys were distributed in clinic and by mail. Both quantitative and qualitative data were collected and several common themes were identified. Summary: Fifty-four percent of the patient respondents have had >2 biopsies, most during the past five years, with 19% requiring additional surgical procedures. When asked the meaning of biopsy results, 46% did not cite an increased risk for breast cancer. Sixty-nine percent of respondents have considered making changes to reduce their breast cancer risk with 77% experiencing uncertainty about making decisions. Twenty-two percent thought they did not have all the information needed to understand the meaning of their biopsy results, with 26% desiring information about breast cancer risk and 79% wanting information about the biopsy condition itself. The top three priorities for their patients cited by health care providers were the need for follow up recommendations (100%), the need for information (92%) and the need for decision-making assistance (75%). Conclusions: Patients report the need for more complete and tailored information regarding their specific BBD and its relationship to breast cancer risk. Providers report the greatest needs of patients are follow up recommendations, information and decision-making assistance.
63	**64**
Serum Levels of Insulin-Like Growth Factor 1 (IGF-I) and IGF Binding Protein-3 (IGFBP-3) in US Adults from NHANES III: Associations with Demography, Anthropometry, and Mortality. Berrigan D, Saydah S, Potischman N, Dodd K, Graubard B, Hursting SP, Lavigne J, Barrett JC, Ballard-Barbash R. Purpose: We examined the relationships between serum IGF-I and IGF-BP3 and demographic and anthropometric variables, and all-cause mortality in the National Health and Nutrition Examination Survey III (1988-1994). Methods: Serum IGF¡¦s from the morning fasting sample of 20+ year old adults (n = 6056) were measured using the IGF-I ELISA (DSL Laboratories 10-5600) and the IGF-BP3 IRMA (DSL 6600). Deaths were identified via the National Death Index through 2000. Weighted regression was used to examine cross-sectional associations and proportional hazards models were used to analyze 743 deaths, (181 from cancer). Results: Age and gender, and an interaction between gender and race/ethnicity, were associated with serum IGF¡¦s. Female non-Hispanic Whites (256 ± 2.9), and Hispanics (249 ± 3.8) had lower levels of IGF-I than NH Blacks (281 ± 3.6), IGF levels in White (287 ± 2.8) and Black (284 ± 4.1) males were similar and levels in Hispanics were slightly reduced (265 ± 3.4). IGF-BP3 was lower in male and female blacks and Hispanics. Mortality data suggested lower IGF-I levels are associated with increased risk of cancer mortality in men but not women. Summary: This population based analysis identified differences in IGF and binding protein levels by age, gender and race/ethnicity and gender effects on the association between IGF-1 and mortality.	Title: Methylation Status of p16, ER beta and PRDM2 in Hepatocellular Carcinoma Dakic A, Abdel-Hamid M, Loffredo CA , Ma X and Goldman R. Purpose: This study evaluated promoter hypermethylation of p16, ER beta and PRMD2 genes as candidate biomarkers for early detection and improved classification of hepatocellular carcinoma (HCC). Methods: We investigated 22 liver cancer patients and 20 autopsy donors. Paired tumor and adjacent tissue was available for 12 of the 22 patients. DNA was isolated from frozen liver tissue, modified with bisulfite, and amplified using methylation-specific PCR. We used previously reported PCR primers for the analysis of p16 and PRDM2 genes. Nested primers for ER beta were designed based on published bisulfite sequencing of the promoter region. Of 22 histologically confirmed HCC specimens, 19 (86%) exhibited promoter methylation in at least one of the genes. All three genes were methylated in 13 (50%) samples. The promoters of tumor suppressor p16 and ER beta genes were each methylated in 17 (77%) of the specimens. PRDM2 was methylated in 12 specimens (58%). We did not detect methylation in the tissues of autopsy donors, but some gene promoters of liver specimens adjacent to tumor were methylated. Summary: These data demonstrate the presence of aberrant methylation pattern of the investigated genes in a significant proportion of the HCC tissue specimens possibly at an early stage. The observed increase in methylation of cancer tissue may be useful in examining the progression of chronic hepatitis C viral infection to malignancy.

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Biomarkers for susceptibility to lung cancer in women with breast cancer.
Tennis M, Krishnan S, Singh B, Granath F, Hall P, and Shields PG
Purpose: We are investigating potential biomarkers of susceptibility to primary lung cancer in women with breast cancer. Risks associated with these biomarkers may be modified by smoking and/or radiotherapy.
Methods: 121 cases with breast cancer and a primary lung cancer and 121 controls with breast cancer only were identified from the Swedish Cancer Registry. Primary status of lung tumors is being confirmed by a second pathology review that includes immunostains of lung adenocarcinomas with Thyroid Transcription Factor-1. 362 tumors have been analyzed by the Affymetrix p53 GeneChip system for p53 mutations. 223 tumors were wildtype and 19 had a mutation that was confirmed by manual sequencing. 237 tumors have been analyzed with real-time PCR to detect promoter methylation. 33 were positive for p16 methylation and 24 were positive for Ecad methylation. Immunohistochemistry has been completed on all tumors with Estrogen Receptor alpha and 75% of breast tumors and 10% of lung tumors were positive.
Summary: Determining risk factors and susceptibilities for lung cancer in women with breast cancer could have significant clinical impact. This project will provide valuable information regarding radiation, smoking, and risk of lung cancer to women choosing a course of therapy for breast cancer and may lead to improved overall survival for breast cancer patients.

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A Prognostic Biomarker for Breast and Prostate Cancer
Stefano Rossetti, Silvia Pozzi, MingQiang Ren, and Nicoletta Sacchi
Purpose: Biomarkers are needed to accurately predict the risk for breast and prostate cancer. Retinoic acid is an important mediator of growth inhibition and differentiation in both breast and prostate cancer cells. We first found that RA-resistance is mechanistically related to aberrant RARB2 methylation (Sirchia et al, Oncogene 2000). This knowledge has already enabled clinical trials for the prediction of breast cancer risk (Bean et al., CEBP 2005). Recently, we demonstrated that RARB2 methylation emerges from a specific epicenter (Ren et al., Mol Cell Biol., 2005). We developed specific reagents for the accurate detection of this epicenter. Methods: With new primers that can detect the RARB2 methylation epicenter in combination with methylation specific PCR (MSP) analysis we can reliably detect the RARB2 methylation epicenter in breast and prostate cancer cells. Summary: We developed a method for reliable identification of the RARB2 methylation epicenter. This method is far superior to the method currently used in clinical trials based on the detection of larger RARB2 methylated regions. Because methylation of the epicenter is sufficient for the conversion of RA-sensitive epithelial cells into RA-resistant cells, its identification pinpoints a major biological change that occur early in the process of neoplastic transformation. Thus, detection of the RARB2-methylation epicenter is likely to become a robust prognostic factor to predict breast and prostate cancer risk.

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Study of telomerase, P53 and Bcl-2 expression in Non-Hodgkin's Lymphoma
HE Dongmei, ZHANG Yuan, Liu Gexiu

Purpose: To investigate telomerase reverse transcriptase (hTERT), P53 and Bcl-2 expression in non Hodgkin's lymphoma(NHL) and their clinical significance. Methods: The expression of hTERT,P53 and Bcl-2 protein were evaluated by immunohistochemistry in 35 cases of NHL and in 15 cases of normal lymphom node. Results: The expression of hTERT, P53 and Bcl-2 protein were detected in 71%(25/35), 43%(15/35) and 60%(21/35), respectively. Whereas in 15 normallymphom node,hTERT,P53 and Bcl-2 protein expression was only in 27%(4/15),0%(0/15) and 0% i0/15 j,respectively. hTERT, P53 and Bcl-2 protein expression in NHL were significantly higher than in normal control($P<0.05$).In 35 NHL, 20 cases were both hTERT and Bcl-2 protein expression. Both the expression of hTERT and Bcl-2 protein in the low grade NHL were significantly higher than in the high grade NHL. The expression of hTERT protein is correlated with Bcl-2($P<0.05$).
Conclusions: The expressions of hTERT, P53 and Bcl-2 protein were markedly higher in non Hodgkin's lymphoma than normal control. hTERT ,P53 and Bcl-2 is associated with the malignant degree of NHL. hTERT is positively associated with Bcl-2.

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Storytelling versus Numeric Risk Communication for Promoting Colorectal Cancer Screening among Underserved Latinas
Larkey LK, Lopez AM, Gonzalez J, Minnal A.
Background: In low-income, vulnerable populations, lower levels of health literacy and numeracy may limit the effectiveness of numeric-oriented cancer risk messages for cancer prevention and screening. Our proposed methods for communicating risk for CRC screening are drawn from years of observing and receiving feedback from Latina community health educators. Storytelling, based on narrative theory, is suggested as a culturally-aligned method for promotion of CRC prevention and screening among low-income Latinas.
Methods: A two-group, randomized, controlled pilot study utilizing a brief community intervention compared effects of two methods, STorytelling (ST) versus Numeric Risk (NR) communication, on intent to screen for CRC and intent to change lifestyle factors. The NR intervention was based on the Harvard Cancer Risk Index-General (HCRI-G); ST intervention was an engaging, culturally-familiar story with risk factor information paralleling the HCRI-G; discussions emphasized CRC. Results: Mean scores for intent to obtain endoscopy among 47 Latinas aged 50 and over were significantly better for participants in ST than NR ($p = .038$). Intent to recommend CRC screening to others was also greater among 78 Latinas of all ages in ST compared to NR ($p = .011$). All participants expressed intent to increase fruit and vegetable consumption and physical activity in response to the interventions.
Conclusions: Storytelling may be a more effective approach for communicating risk factors, prevention, and screening recommendations among Latinas than standard, numeric risk communication methods. Emphasis on culture-linked story elements and kinship/friendship networks for cancer prevention/screening education should be further explored.

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Interest in Genetic Testing Among Affected Men from Hereditary Prostate Cancer (HPC) Families and Unaffected Male Relatives.
Julie Harris, Alan Kuniyuki, Laura McIntosh, Janet Stanford, Elaine Ostrander, Deborah Bowen

A genetic test for prostate cancer has not yet been developed, but is likely to be a reality in the future. Understanding the characteristics and perceptions of cases and their family members towards genetic testing will be important in guiding future educational and counseling efforts in this population. Prostate cancer probands (n=628) and their unaffected male relatives (n=417) completed a mailed survey assessing interest in genetic testing, screening behaviors, and family and demographic variables. 80% of cases (mean age=73) reported that they definitely or probably would take a genetic test for prostate cancer if available, while 91% of relatives (mean age=58) reported the same. However, more cases reported that they had read or heard "a fair amount or more" about genetic testing when compared to their unaffected relatives (46% vs. 24%). Associations between degree of interest in genetic testing and demographic, familial characteristics, and screening behavior are also examined. Results illustrate different subgroups within both unaffected relatives and probands that may have greater interest in genetic testing. Future research will be necessary to elucidate the motivations and perceptions related to testing in men from HPC families.

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Colorectal Cancer Surveillance Behaviors in Familial Adenomatous Polyposis Families
Kinney, A.Y., Hicken, B., Simonsen, S.E., Venne, V., Lowstuter, K., Balzotti, J., & Burt, R.W.

Purpose: We examined factors associated with non-adherence to surveillance recommendations among members of familial adenomatous polyposis (FAP) families. Methods: This cross-sectional telephone survey consisted of 150 male and female FAP patients or at-risk relatives who did not have personal history of cancer. Participants were drawn from families enrolled in a university-based hereditary colorectal cancer registry. Results: 46% of 71 participants with a personal history of FAP and 58% of 79 at-risk relatives reported adherence to colorectal cancer surveillance recommendations. 76% of participants reported that a health care provider recommended regular colorectal cancer surveillance and 72% perceived their colorectal cancer risk was increased. In multiple logistic regression analysis, factors associated with non-adherence were lack of provider recommendation for an endoscopic examination of the colon (OR = 4.8; 95% CI = 1.8-13.1), lack of health insurance or no reimbursement for colorectal cancer surveillance (OR = 3.6; 95% CI =1.2-10.5), and/or the belief that their relative risk of colorectal is not increased (OR = 3.1; 95% CI = 1.2-7.1). Conclusions: Despite the known benefits of colorectal cancer surveillance, a large proportion of FAP family members were not adhering to surveillance recommendations. Interventions targeted at both clinicians and patients are needed to improve surveillance behavior. These data are also important in designing decision support tools for clinicians to assist them in identifying and managing high-risk patients.

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Decision Making Among High-Risk Women Undergoing Breast/Ovarian Genetic Testing.
Suzanne M. Miller, PhD, Joanne S. Buzaglo, PhD, Bernabeo Elizabeth, MPH, Pagona Roussi, PhD, Daly Mary, MD and Melania Popa-Mabe, MSW
We explored the impact of an enhanced counseling intervention among high-risk women undergoing BRCA1/2 genetic testing on decision making regarding breast and ovarian cancer risk-reduction options. We compared standard individualized genetic counseling enhanced by a "Cognitive-Affective Preparatory" counseling intervention (CAP) to a control group (standard counseling plus General Health Information). Enhanced counseling involved structured role-play. Women were helped to anticipate and plan for the disclosure of all possible testing outcomes. All participants (N=95) were asked to provide an audiotaped account of their thoughts and feelings about their familial cancer risk and their genetic testing decision. Guided by the Cognitive Social Health Information Processing (C-SHIP) model, transcripts of the audiotaped accounts were coded for the presence of discrete thought units, and cognitive-affective units. Analysis of variance showed that women receiving enhanced counseling expressed more cognitive-affective processing than women in control condition, as measured by the number of identifiable thought units and the frequency of discreet cognitive-affective units (p=.002). Women who received CAP more frequently expressed perceived risk (p=.036), health-related values and goals (p=.012), negative affect (p=.02), self-efficacy (p=.003), and action plans (p=.004), than women in the control condition. The results suggest that cognitive-affective preparation may facilitate the deeper processing of risk feedback. This unique dataset combines qualitative and quantitative approaches to the understanding of how individuals process complex risk-related decisions.

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Pain Management in Women Who Died of Ovarian Cancer: The Last Six Months
Rolnick SJ, Jackson J, Nelson WW, Butani A, Herrinton LJ, Hornbrook MC, Neslund-Dudas C, Bachman D, Coughlin SS

Purpose: We examined pharmaceutical pain management six months prior to death of women who died of ovarian cancer (n=421).
Methods: Data were obtained retrospectively from three HMOs between1995-2000. Subjects were identified through cancer registries and administrative data. Pain documentation was obtained through record review. Out-patient pharmacy dispensings during the final six months of life were categorized according to the WHO pain management ladder.
Results: Pain medication use shifted over time, with analgesic intensity increasing as death approached. Approximately 53% of women were either on no or mild pain medication 5-6 months prior to death, with only 9% using the strongest regimen. At 3-4 months before death, the percentage on mild analgesia dropped to 15% and strong regimens accounted for 22%. At 1-2 months prior to death, the percentage on the highest strength medications rose to 54%. Younger women (<50) were more likely to be prescribed high strength analgesia than older women (70+) (70% vs. 44%, p=0.001). No differences were found by race, marital status, year of diagnosis, stage of disease, or comorbidity.
Conclusion: Because pain can be treated as death approaches, adequate assessment is essential to alleviate suffering. Our findings, that only about half the women were on high intensity medications, indicate that there may be much room for improvement in end-of-life care of ovarian cancer patients.

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How Alternative is Alternative Medicine? Patterns of CAM use in breast cancer survivors. L. Madlensky for the WHEL study group We investigated whether there was a continuum of CAM use in a telephone survey of 2527 breast cancer survivors enrolled in a large randomized trial. Usage data was obtained for the 17 major CAM modalities listed on the National Center for Complementary and Alternative Medicine website. Overall, survivors were using an average of 3.3 CAM modalities; 80% of survivors were using at least one CAM. Fifty-five percent of CAMs were not used for cancer-related purposes; 23% were used for cancer, 16% were used for cancer and side effects of treatment, and 6% were used for side effects only. Massage was the most frequently used modality (43%), followed by meditation (41%), yoga (34%), chiropractic (31%), and spiritual healing (31%). The continuum of use was divided into five categories, ranging from no CAM use to using one, two, three or four different classes of CAM. CAM use was not associated with any treatment variables nor cancer stage. Increasing CAM use was associated with lower quality of life (SF-36) scores, but higher levels of optimism. CAM use was also associated with increasing physical activity, supplement use, and fruit and vegetable intake. African-American women were half as likely to report CAM use as White women, and education level was positively correlated with CAM use. Conclusion: The use of CAM is common among breast cancer survivors, however most use is not related to cancer. There is a continuum of CAM use that is associated with health behaviors, psychosocial and demographic characteristics.	Family History of Colorectal Cancer is Associated with Screening, but not Lifestyle Behaviors. L. Madlensky Family history of colorectal cancer (FH-CRC)is a non-modifiable risk factor for the development of colorectal cancer. Since FH-CRC could increase perceptions of susceptibility, individuals at increased risk might be more likely to pursue early detection and prevention behaviors. Using data from the NCI-funded Colon Cancer Family Registries (CFRs), exploratory analyses were undertaken to determine whether strength of family history might be associated with preventive health behaviors. Over 9000 participants from two performance sites (Ontario, Canada and Seattle, WA) completed a risk factor and medical history questionnaire. Respondents were classified as average, moderate or high risk according to the number of colorectal cancer cases in their family. These three groups were compared for screening (FOBT, sigmoidoscopy and colonoscopy) and preventive behaviors (diet, smoking, alcohol, aspirin/NSAID use, vitamin use). After stratifying for age (by decade) and sex, there were no differences between groups for lifestyle behaviors, except that high risk men age >50 were less likely to currently drink alcohol. There were strong associations for each of the three screening modalities, with increasing strength of family history associated with having ever been screened. However, nearly half of those in the highest risk group had never had a colonoscopy. The results suggest that individuals with a strong FH-CRC are screened more aggressively, but are not engaged in primary prevention any more than those with no family history. The pattern of reduced alcohol use in men with a strong FH-CRC warrants further investigation.
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Computer-Based Education for Treatment Decision-Making in Localized Prostate Cancer Taylor, KL, Schwartz, MD, Davis, KD, Lamond, TW, Feng, S, Lawrence, WF, Brink, S. The relative mortality outcomes associated with the different treatment strategies for early-stage PCa are uncertain. Thus, easily accessible methods for educating men about treatment options and outcomes are needed. We conducted a randomized trial to evaluate two versions of a detailed, computer-based (CD-ROM) decision aid. As there were no group differences at the one-month assessment, we collapsed the arms to describe the use and evaluation of the CD-ROM as an educational medium in this setting. Method. Men with newly diagnosed, localized PCa (N=133) completed telephone interviews at baseline (prior to the treatment decision), and one, six, and twelve months post-intervention. The intervention was mailed to men for use at home. Results. Men were 64.5 (sd =9.4) years old, 55% had completed some graduate school/graduate degree, 74% were white, and 94% reported computer access. At one-month (N=121), knowledge increased ($p<.05$) and decisional conflict decreased ($p<.05$) equally across the groups. Ninety-five men (78.5%) used the CD-ROM. Use was not associated with demographics, but was associated with greater involvement in treatment decision making ($p<.05$). Users reported that the CD-ROM was somewhat/very helpful in making their treatment decision (85%), increased their sense of control over the decision (75%), that they used it as much/more than other information sources (76%), and that they used it > once (80%). Conclusions. In many areas of medicine, the uncertainty associated with treatment outcomes has resulted in the need for extensive patient education. The CD-ROM appears to be an effective and well-accepted tool for PCa treatment decision making among a highly educated sample of men.	Population-Based Study of Chemotherapy-Related Cognitive Impairment. Heck J and Sheinfeld Gorin S. Aims: Several studies have reported an increase in cognitive impairment among cancer survivors who have undergone adjuvant chemotherapy. The studies have been critiqued for their small size, lack of an independent control group, or inability to control for hormone status. Using a large population database, and systematic adjustments for major confounds, the aim of this study was to examine utilization of adjuvant therapies among breast cancer patients and subsequent diagnoses of dementia in the years following treatment. Method: Subjects were 49,312 female Medicare enrollees age 65 and older who were diagnosed with breast cancer between 1992 and 1999 and identified by the Surveillance, Epidemiology, and End Results (SEER) program. Dates of their health care visits were identified through the linkage of SEER with Medicare claims data. Results. After propensity scores analysis, there was a non-significant trend towards elevated dementia diagnosis in the first six months following the initiation of chemotherapy (OR=1.40, 95% CI, 0.89-2.20). In subsequent 6-month time periods, the odds of dementia diagnosis approached the null (within 1 year of start of chemotherapy, OR= 1.08, 95% CI, 0.79-1.48; within 1.5 years, OR= 1.01, 95% CI, 0.77-1.32; within 2 years, OR=0.98, 0.77-1.25). Conclusions. The study was the first to rely on a large population-based claims database to examine "chemobrain." The findings, while limited by certainty about the use of standardized diagnostic criteria, showed no increase in dementia diagnosis among those who received chemotherapeutic treatment.

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Diet and Exercise Behaviors Among Women Receiving BRCA Test Results

O'Neill, S.C., Kaufman, E., DeMarco, T.D., McKenna, K., Finch, C., & Schwartz, M.D..

Genetic risk assessment for cancer may represent a teachable moment for health behavior change. Indeed, the role of diet and physical activity is a frequent topic during cancer genetic counseling. To date, little is known about whether women change their diet and physical activity patterns following genetic risk assessment. We examined changes in physical activity and diet among women receiving positive (n=46), uninformative (n=42), and true negative (n=23) results. 111 women undergoing genetic risk assessment (mean age=48.5, range 29-78) completed measures of physical activity and fruit, vegetable and fat consumption at baseline (pre-counseling), 1- and 6-months post-receipt of genetic test results. Overall, there were no significant changes across timepoints in physical activity (F [2,216]=.86, p=.42), fruit and vegetable (F [2,216]=.27,p=.77), or saturated fat consumption (F[2,216]=.41,p=.67). Further, there were no between-group differences across timepoints in physical activity (F[4,214]=.17,p=.95), fruit and vegetable (F [4,214]=1.15,p=.33), or saturated fat consumption (F[4,214]=.41,p=.80). At 6-months postdisclosure, 56.5% of participants reported diets with greater than 30% total dietary fat. 71.2% consumed <5 fruits and vegetables per day. Results indicate that women receiving BRCA1/2 test results do not report significant changes in their diet and physical activity patterns after testing, but that improvements could be made. Such changes may appeal to women who are not intending to utilize more definitive risk-reduction strategies.

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Care in Context: Promoting Follow-up Care Among African American Breast Cancer Survivors.

R Royak-Schaler, S Racine Passmore, K Tkaczuk, J Finkelstein, J Drummond, P Nicholson, A Hutchison, S Gadalla

Background. To address the gap in scientific understanding regarding the health concerns and follow-up care practices of African American (AA) breast cancer survivors after treatment is complete, we investigated: 1) patient-physician communication and patient follow-up care practices; and 2) strategies for developing follow-up care plans which address the special needs of AA breast cancer survivors.

Methods. Four focus groups were conducted with 39 AA women (mean age = 55 years) and analyzed using ATLAS 5.0 software, to investigate the following themes: patient-physician communication and decision-making about follow-up care; other sources of information used in developing follow-up care plans (e.g. internet or print material); preferences and avenues for information delivery to survivors.

Results. Participants identified no clear plan valued over others as a means to reducing their risk of breast cancer recurrence. They reported minimal knowledge of state-of-the-art strategies for reducing their risk of recurrence, for example weight management by low-fat diet and physical activity. They were largely satisfied with the information received from medical professionals, even though it did not specifically target the health concerns of AA women, for whom healthy eating is difficult in the context of traditional high fat diets. Participants emphasized the important role of social support from other survivors in developing and maintaining their plans for self-care, particularly in the years following initial diagnosis and treatment.

Conclusions. African American survivors articulated a critical need for guidance in developing feasible plans of self-care, which target the context of their lifestyles, for improving breast cancer outcomes.

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Recruitment and Retention in a Randomized Clinical Trial of Psychosocial Telephone Counseling to Improve Quality of Life in Women Treated for Cervical Cancer.

Osann K, Dogan-Ates A, Dupont N, Monk B, Nelson E, Wenzel L.

Purpose: Greater attention has recently been focused on the recruitment of women and minorities to cancer clinical trials because of underrepresentation and the higher morbidity and mortality experienced by minority populations. We report on successful recruitment and retention in a pilot randomized clinical trial of the effectiveness of psychosocial telephone counseling (PTC) to improve quality of life and modulate immunological markers of stress in women with invasive cervical cancer.

Methods: Subjects were recruited through the regional cancer registries in Orange, San Diego, Imperial, and Los Angeles counties and from clinic registries.

Results: A total of 379 recruitment letters were mailed to women diagnosed with cervical cancer. Twenty-three percent of potential subjects could not be reached because they were deceased or contact information was incorrect. Among those with a valid telephone number, 17% were ineligible, 26% refused, and 33% never answered (passive refusal). Fifty patients (23%) were successfully recruited and randomized including 20 Hispanic women, 70% of whom spoke primarily Spanish at home. The study drop-out rate was 28%. Retention was significantly lower for Spanish speakers and women with less education.

Conclusion: Minority women can be successfully recruited to cancer clinical trials, though retention remains a challenge. New strategies for improved recruitment and retention of minorities who have higher rates for cervical cancer are needed.

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Validity of Self-Reported Smoking Status among Lung Cancer Screening Participants

Studts JL, Ghate S, Marmorato J, Barnes C, Studts C, LaJoie AS, LaRocca R.

Introduction: Recent research has suggested that lung cancer screening might reduce lung cancer mortality and that significant numbers of participants quit smoking after screening. Concerns have been raised about the validity of self-reported smoking measures among cancer screening participants who may be motivated to under-report smoking. However, only one lung cancer screening study has biochemically verified self-reported smoking behavior.

Methods: This study validated self-reported smoking prevalence against urinary cotinine levels measured with the NicAlert® strip (Nymox, Maywood, NJ). The sample consisted of 55 consecutive participants enrolled in the Jewish Hospital Lung Cancer Screening & Early Detection Study, a randomized trial comparing spiral CT and chest X-ray for lung cancer screening. Study participants were a mean of 59 years of age, and were predominantly Caucasian (96%) and male (55%).

Results: Using urinary cotinine levels for determination of nicotine exposure (cut-off=100 ng/ml), sensitivity and specificity of self-reported smoking status were 91% and 95%, respectively. Total misclassification rate was 7% (4 participants). However, three misclassified participants reported current use of nicotine replacement. Eliminating these cases from the analysis revealed sensitivity of 100% and specificity of 95% with only one misclassified case (a false positive).

Summary: In conclusion, results suggest that participants in lung cancer screening trials provide valid reports of smoking status.

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Long-term Quality of Life among Prostate Cancer Survivors: A Growth Curve Modeling Approach.
Diefenbach, MA Dudley, W, Jasti, S

Introduction: Past research using conventional multivariate analytical approaches found that prostate cancer (CAP) patients report high levels of quality of life (QOL) within 12-18 month post treatment, after controlling for treatment choice and clinical variables. These results are based on mean scores of functioning that could potentially mask considerable individual differences in QOL.
Methods: We examined four QOL domains (physical, social, emotional, and functional) among 415 men diagnosed with localized CAP who reported on their QOL from the time of diagnosis six times over 36 month. Using growth curve modeling we examined individual change in distress (i.e., CAP related avoidance and intrusion) in relation to the four QOL domains.
Results: After 36 months patients, on average, reached or exceeded pre-diagnosis QOL levels. Modeling indicated significant increases in Emotional, Physical and Functional QOL (increasing linear slopes), but not Social QOL. There also was a significant decline (negative slopes) in avoidance and intrusion over the course of the study. Most importantly we found significant inter-individual variability in the rate of change in the QOL variables, suggesting that patients significantly vary in their patterns of recovery to regain pre-diagnosis levels of QOL. We found that patterns of recovery were related to individual differences in time-variant (e.g., sexual and urinary functioning) and time-invariant variables (e.g., age and clinical variables).
Conclusion: Growth curve modeling is superior compared to traditional multivariate techniques to uncover individual patterns of recovery and levels of QOL.

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Decision Making about Cancer-related Behaviors: The Role of Affective Associations with Behavioral Choices.
Kiviniemi MT.

Purpose: The incidence of many cancers is related to individual behavioral practices (e.g., dietary fat/colon cancer, tanning/skin cancer). Individuals are known to associate feelings with particular health behaviors (e.g., positive affect with comfort foods). We investigated how affective associations with five behaviors related to cancer etiology (alcohol consumption, fruit and vegetable consumption, high fat food consumption, physical activity, tanning) predicted ongoing engagement in each of the behaviors. In addition, we examined the interplay of affective associations and cognitive beliefs about the utility of the behavior as influences on behavioral practices. Methods: For each behavior, participants (N=191) completed measures of: a) affective associations; b) cognitive beliefs about utility; and c) ongoing engagement in the behavior (affective and cognitive measures modified from Crites et al., 1994).
Results: For each behavior, there was a significant association between affective associations and behavior; rs (190) all >.20, all ps<.05. Individuals associating more positive affect with a behavior were more likely to engage in the behavior. Moreover, investigation of the relation between cognitive utility, affective associations, and behavior revealed that in every case the influence of cognitive beliefs about utility on behavioral practices was mediated through affective associations with the behavior; all Sobel (1982) tests for mediation z>2.14, all ps<.05.
Summary: These results indicate that affective associations with cancer-related behaviors play a central role in individuals' decision making about those behaviors. These results have potential implications for both understanding the processes involved in health behavior decision making and for interventions designed to change cancer-related behavioral practices.

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Motor impairments in adult survivors of childhood Acute Lymhpoblastic Leukemia (ALL).
Ness KK, Baker KS, Gurney JG.

Purpose: To ascertain hand grip, knee extension strength, and mobility among 75 adult survivors of childhood ALL, and compare these values to population norms.
Methods: Participants were 75 randomly selected 18+ year old, 5+ year cancer survivors treated for childhood ALL as children age <21. Hand held myometry was used to measure strength. Mobility was evaluated with the Timed Up and Go (TUG). Cardiopulmonary fitness was evaluated with the 2-minute walk (TMW). DeXA scans were performed to evaluate lean body mass. One sample t-tests were used to compare ALL survivors to population norms.
Results: ALL survivors had lower mean knee extension strength (mean difference males: 98.07 N; females: 59.96 N). Strength was not correlated with lean body mass (r=0.12-0.20). Participants walked shorter distances on the TMW (mean difference males: 107.7 km; females: 89.12 km) and took longer to complete the TUG than expected for their age and sex (mean difference males: 2.63 sec; females 2.88 sec).
Summary: Young adult survivors of childhood ALL have strength and mobility deficits that may interfere with participation in activities that require lower extremity power, sustained mobility, or rapid movement transitions.

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Impact of Breast Cancer Screening Intervention on Korean American Women in Maryland
Hee-Soon Juon and Ann Klassen

Purpose: Adherence to mammography guidelines among Korean American women (KAW) is lower than that of Caucasian-Americans, and disparities in breast cancer screening related to lack of spoken English proficiency is under-researched. This study examined the impact of a breast cancer intervention on intentions to use mammography among KAW.
Method: Face-to-face pre-intervention surveys were conducted in control (n=108) and intervention groups (n=120), and were followed by implementation of a breast cancer education program. At six months, both groups were re-interviewed by phone (105 control and 110 intervention participants).
Summary: The intervention effect was statistically significant. Women in the intervention group were 2.86 times more likely to report intentions to have mammograms than those in the control group. Prior intentions, age, and positive attitudes toward mammography were associated with follow-up intentions to have a mammogram. This culturally and linguistically tailored educational intervention was effective in increasing breast cancer awareness in a non-English speaking population.

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Predictors of Recruitment Method to a Cancer Genetics Registry
Henrikson, Nora Beidler; Harris, Julie N; Bowen, Deborah

Using different recruitment methods to genetics registries might produce samples with different demographic characteristics. OBJECTIVES: A cross-sectional study to describe differences between recruited and self-referred participants and identify predictors of referral status.

METHODS: We sent a survey to cancer genetics registry members recruited through either self-referral or population-based sampling (n=268).

RESULTS: There were no significant differences in demographic variables between the two samples except for education (higher in the self-referral group, $p<0.01$). The self-referral group showed significantly higher levels of anxiety, depression, and cancer history and was more likely to report the strongest response to statements about cancer risk, screening intentions, and views on genetic testing. Logistic regression modeling indicated these variables predicting self-referral: previous cancer diagnosis, viewing self as a candidate for genetic testing, education higher than high school, and wanting assistance with personal future risk (R square 0.41).

CONCLUSIONS: Though the self-referred sample showed similar demographics and lower quality of life in bivariate analysis, previous cancer diagnosis and views on genetics and genetic testing predicted referral status in multivariate analysis. Though recruitment method may result in samples with different characteristics, self-referral methods may help genetics education and support efforts reach a population in need of services.

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Associations between Affective Distress, Attention to Health Information, and Experiences with Cancer Information Seeking in the 2003 Health Information National Trends Survey (HINTS).
Ellen Beckjord, PhD, MPH, Lila J. Finney Rutten, PhD, MPH, Bradford Hesse, PhD, & Neeraj Arora, PhD

Situations in which individuals are required to attend to and process information about their health are often emotionally stressful. Associations between negative affect and cognitive processing are well documented in experimental settings, but not at the population level. The current study used nationally representative data from the 2003 Health Information National Trends Survey (HINTS) to examine associations between self-reported cancer worry, depressive symptoms, attention to health messages, and experiences with seeking cancer-related information.

Results: Higher levels of cancer worry were associated with more self-reported attention to health communication ($r = 0.14$, $p<0.01$). Higher levels of cancer worry and more symptoms of depression were associated with worse experiences with cancer information seeking ($r=0.16$, $p<0.01$ for cancer worry; $r=0.21$, $p<0.01$ for symptoms of depression). In multivariable models adjusted for demographic covariates, cancer worry remained significantly associated with both attention to health communication and experiences with cancer information seeking ($â= 0.73$, $p<0.01$ for attention; $â=0.61$, $p<0.01$ for information seeking). Symptoms of depression were significantly associated with experiences of information seeking ($â=0.14$, $p<0.01$), but not with patterns of attention.

Conclusions: Negative affect is associated with increased attention to health messages, but with difficulty in seeking and processing information related to cancer. Emotional distress may negatively affect the potentially beneficial impact of health communication on people's cancer prevention behaviors.

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Development of Spirituality-Based Counseling Methods for Weight Loss Maintenance in Breast Cancer Survivors
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A continuing challenge in weight loss treatment is attaining maintenance of weight loss. Successful weight loss requires a lifestyle change, and continued adherence to this lifestyle change will likely require incorporation of the new behaviors into one's own value system. In this ongoing feasibility study, 31 obese, African American breast cancer survivors were recruited (mean body mass index 36, range 30-45 kg/m2). Individualized, dietitian-led counseling by telephone combined with free Weight Watchers coupons is provided to all participants for 18 months. After 6 months, women are randomized to receive spirituality counseling or not in addition to the standard program. The spirituality counseling is delivered via telephone using a structured format and draws upon the ties that one feels within themselves, with others and with a higher power. An 8-step framework was developed to guide the counseling, and this framework addresses common problem areas in weight loss maintenance. Subjects are asked to complete daily meditation or prayer, daily readings, and the recording of thoughts in a journal. The counseling approach is flexible and individualized and should help subjects prioritize their own health to make lasting changes in diet and exercise. Supported by the NCI-CAM grant 1R21CA1007 and the Weight Watchers Group, Farmington Hills, MI.

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Team Up: Cancer Screening Saves Lives

Katherine M. Wilson, Erica S. Breslau, Donald M. Blackman, Phyllis Rochester

While effective strategies to increase cancer screening have been identified, little is known about approaches to disseminating them so they are adopted in community-level public health efforts. In a public-private partnership, the American Cancer Society, the Centers for Disease Control and Prevention, the National Cancer Institute, and the United States Department of Agriculture funded eight states to pilot an intervention in which state-level partnerships provided infrastructure for the selection, adaptation, and use of evidence-based interventions for cancer screening. The goal of the pilot is to increase the participation in breast and cervical screening among women living in counties with persistently high cervical cancer mortality. A particular focus for the pilot is among women never or rarely screened for cervical cancer. This poster will discuss the design of an evaluation framework, outline the theory and instruments used to measure the national and state dimensions of partnership, report actions taken by local partnerships in selecting and adapting an evidence-based intervention, and present preliminary evaluation data of the pilot program. Understanding more about the process of disseminating evidence-based interventions and the tools needed for the process is an important step in assuring that communities reap the benefits of research.

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Posttraumatic Growth and Relationship Functioning in Couples with Breast Cancer

Naomi L. Wiesenthal and Donald H. Baucom, University of North Carolina at Chapel Hill; Laura S. Porter, Duke University Medical Center; Jennifer S. Kirby and Tina M. Gremore, University of North Carolina at Chapel Hill; Francis J. Keefe, Duke University Medical Center

Breast cancer has far-reaching psychological sequelae for patients and their families. In addition to negative sequelae, women and their partners often report an increase in positive functioning. Benefit finding refers to beliefs about the positive consequences of struggles with adversity. Posttraumatic growth, a related concept, describes both (a) a process by which people rebuild assumptions (about themselves, others, and the world) that get shattered during crises, and (b) the construction of a life perceived as better than that before the trauma. People often report growth in the domains of self-perception, interpersonal relationships, and life philosophy.

As part of a larger, couples-based treatment outcome study for women facing early-stage breast cancer, this study asks: (1) Does greater relationship satisfaction result in higher posttraumatic growth and more benefit finding? (2) Do more supportive couples show greater posttraumatic growth and benefit finding? (3) Do posttraumatic growth and benefit finding lead to greater relationship satisfaction? Finally, (4) do couples with greater posttraumatic growth and benefit finding go on to show each other more support? Twenty-five couples were assessed at two time points 14 weeks apart. Multivariate regression was used to address study questions. Results will be presented and implications discussed.

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Barriers to compliance with recommendations for colorectal cancer screening among older adults

Berkowitz Z, Hawkins N, Peipins L, Chen X.

Purpose: To assess risk perceptions and reasons for not undergoing colorectal cancer screening among older adults with no history of colorectal cancer. Methods: We conducted a stratified analysis by age (65-74 and 75+ years) using the Health Information National Trends Survey (2003), a probability sample representing non-institutionalized U.S. civilians.

Results: Of those who had heard of fecal occult blood test (FOBT; n=922), and sigmoidoscopy or colonoscopy (n=1026), 68% and 39% respectively didn't undergo recommended screening. The most common reasons given were "No reason"; "Doctor did not order"; and "Did not need/did not know needed this test". The 65-74 years age group was more likely to ascribe nonadherence to FOBT to having another type of colon exam (12.6% vs 3.3%) and to having the test at the physician's office (5.6% vs 4%). For sigmoidoscopy/colonoscopy, that group more commonly mentioned "No reason" (12.5% vs. 7.9%), and less commonly "Didn't need" (5.3% vs. 7.4%). The majority in both age groups reported good health and did not perceive themselves at a heightened risk of getting colon cancer. However, nonadherence was more common in the younger age group. Nonadherence was also associated with having no opinion or, not knowing whether the test was too expensive and with being afraid of finding cancer.

Summary: Nonadherence to colon cancer screening among these age groups might be explained by lack of physician's recommendation to get the test, lack of awareness, and perceptions of good health and decreased susceptibility to colon cancer.

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Uptake Rates for Breast Cancer Genetic Testing: A Systematic Review. Ropka M, Wenzel J, Phillips E, Siadaty M, Philbrick J.

PURPOSE: (1) What uptake rates, real and hypothetical, were reported; how much do they vary; are hypothetical rates higher than real rates? (2) How are uptake rates, real and hypothetical, measured? (3) Are personal or family history of breast cancer (BC), or other clinical factors, associated with uptake rates? (4) Do issues of study methodology influence and potentially bias uptake rates?

METHODS: Using MEDLINE, CINAHL, and PSYCHINFO, we identified 40 studies that addressed BC decisions; enrolled adults; published 1990 or more recently; peer-reviewed clinical studies; addressed genetic testing (GT), alone or with genetic counseling; reported rates of interest in and/or obtained GT. Study information was abstracted; methodologic quality was evaluated by a quality review system.

RESULTS: Of the 40 studies, 25 provided information about hypothetical GT decisions, 14 about real decisions, and one both. Mean hypothetical uptake was higher (66%, range 20% to 96%) than real (59%, range 25% to 96%, $p<0.0001$). Multivariate logistic regression found that decision type, personal/family BC history, variability in recruitment setting, and differing criteria for real and hypothetical uptake were independently associated with uptake. Additional explanations for uptake variability were: investigator influences, small sample sizes, variability in target populations, poorly described sampling strategies, sampling methods open to bias, and variability in reporting risk factors.

CONCLUSION: In addition to clinical characteristics, methodologic issues are likely to be sources of variability in published BC GT uptake rates. Understanding these issues will clarify why clinical experience may not be congruent with published rates, and guide future research.

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Comparing the Psychosocial Predictors of Recent and Repeat Mammography Use.

McQueen, A., Rakowski, W., Tiro, J., Vernon, S.

Purpose: We compared the psychosocial predictors of recent versus repeat mammography use. For significant predictors assessed with aggregate measures, we also explored the effect of each indicator variable to determine which one(s) contributed to the significant association between the aggregate measure and mammography use.

Method: Secondary analyses were conducted using data from a repeat mammography intervention trial of US women veterans (n = 3415) aged 52-99 years. Dependent variables were assessed at 2-year follow-up. Recent use was defined as completing 1 mammogram within 24 months post-intervention (n = 2279). Repeat use was defined as completing 2 mammograms > 6 but <= 15 months apart post-intervention (n = 1133). Baseline predictors were: knowledge, perceived susceptibility, breast cancer worry, pros, cons, subjective norms, self-efficacy, and intention. Baseline covariates included demographic, health care use, health status, and health behavior variables. Multivariable logistic regression analyses were used.

Results: Reporting greater self-efficacy, and stronger intentions predicted both recent and repeat use. Fewer cons also predicted recent use. Repeat use was positively associated with knowledge, pros, self-efficacy, and the tailored intervention condition. Post-hoc analyses identified confidence in one's ability to reschedule a missed mammogram as a significant indicator of repeat, but not recent mammography use.

Conclusion: The operational definition of mammography use will affect the identification of significant predictors of mammography behavior, which may have important implications for the selection of psychosocial factors to target in future interventions.

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Breast Cancer Prevention Adherence in a Women's Health Clinic Population: Differences by Race and Age.
Wilson DB, McClish D, Quillin J, Bozelleca J, Tracy K, Bodurtha J.

Introduction: Disparities remain in breast cancer clinical outcomes. Few studies have examined disparities in adherence to both primary and secondary preventive recommendations in clinic based populations. We examined race and age differences in reported mammography, self and clinical breast exams, diet, exercise, smoking and alcohol intake in a clinic sample of women over 40.

Methods: This study utilized data collected from women (n=900) waiting for appointments in a women's health clinic and participating in a larger breast cancer trial. Data was collected using a questionnaire on breast cancer screening practices, barriers to screening, healthy lifestyle, and demographic characteristics used in this study. Statistical analyses were performed using univariate and multivariate tests to determine if preventive practices differed by race and age.

Results: The sample was 47% African American and 52% Caucasian women with a mean age of 51. Older women were significantly more likely to have ever had a mammogram and to have had a mammogram recently than younger women. There were significant differences by age and by race in women's intent to get a mammogram and in CBE history. Older women and Caucasian women were significantly more likely to exercise at least 3x/week. Fruit/vegetable intake, BMI, and alcohol intake also significantly varied by race.

Conclusions: Age was more predictive of breast cancer screening and race more predictive of lower adherence to primary preventive health behaviors in this clinic population. Messages for improving compliance to screening recommendations and healthy lifestyle behaviors should be targeted accordingly.

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Disclosure Preferences and Cultural Understanding: A Pilot Study of Chinese Caregivers Living in NYC
Kwon SC, Raveis, VH, Peng T, Senie RT

Purpose: Diagnosis disclosure practices are embedded in cultural beliefs and understandings regarding illness, death and dying. The purpose of this study was to examine the role of primary caregivers in understanding diagnosis disclosure in a sample of Chinese immigrant families.

Methods: A sample of terminally- and seriously-ill Chinese immigrants who had received home health care from the Visiting Nurse Service of New York was drawn. In-depth, semi-structured qualitative interviews were conducted with the primary caregiving child (N=16; female caregivers=8, male caregivers=8) 6 months following discharge to death.

Summary: While all parents were terminally- or seriously-ill, only caregivers whose parent had cancer (N=7) perceived the condition as terminal. Three of these caregivers decided to withhold the cancer diagnosis. The most common reasons for withholding the diagnosis were: that cancer is untreatable and is equivalent to death, that a patient would 'give up' if s/he learned the diagnosis (leading to a hastened death), and a desire to avoid discussing 'bad things' (as it is believed discussing cancer will bring about death). These findings are examined using a cultural and social framework to better understand the factors underlying the disclosure decision made by caregivers in these Chinese immigrant families. Understanding these factors may strengthen efforts in facilitating care that address the culturally-oriented priorities of the patients and their families during the final stages of care for the terminally-ill.

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Use of Menthol Cigarettes and Nicotine Dependence: What Can We Learn from the International Tobacco Control Policy Evaluation Survey?
Qiang Li, Andrew Hyland, Ron Borland, Dave Hammond, Gerard Hastings, K. Michael Cummings.

Purpose: Some evidence suggests that menthol may enhance the dependence capacity of cigarettes, thereby making it more difficult for menthol smokers to quit. This study aims to examine the effects of menthol cigarettes on nicotine dependence and cessation.

Methods: The International Tobacco Control Policy Evaluation Survey (ITCPES) is a prospective tobacco use survey conducted annually among adult smokers in Canada, the United States, the United Kingdom, and Australia since 2002. Data analyzed in this study come from 4,570 baseline smokers who completed the first three surveys (2002 to 2004), and who reported their usual cigarette brands in each survey (for current smokers) or not smoking in the follow-up surveys. Multivariate regression models were used to examine the effects of menthol cigarette on cessation and change of amount smoked.

Summary of Results: The percent of menthol cigarette smokers was highest in the U.S. (26% at baseline), followed by Australia (8%), UK (5%), and Canada (4%). Overall, female, older, and non-white smokers were more likely to smoke menthol brands; while in country specific analyses, the racial difference only presented in the U.S. Compared to baseline non-menthol smokers, menthol smokers had similar quit rates (RR=1.00, 95% C.I. 0.73-1.38) and change of amount smoked per day.

Conclusion: This study doesn't support the hypothesis that menthol smokers have lower quit rates.

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Cancer-Related Health Literacy: A Cross-Cultural Perspective Using the Health Information National Trends Survey
Hunt, M., Willis, G., Moser, R., Hesse, B. & T. McNeel

PURPOSE: Cancer-related health literacy (CR-HL) can be defined as the degree to which individuals have the capacity to obtain, process and understand basic health information and services needed to make appropriate decisions related to cancer risk and prevention. There were several HINTS questions that were considered to represent the larger construct of health literacy. Language and ethnicity were combined into a rough measure of acculturation based on respondent self-report of race/ ethnicity and language of HINTS administration (English or Spanish).

METHODS: Data from HINTS 2003 were utilized to define and assess the following groups: (1) Latino/ Hispanics who took the HINTS survey in Spanish (n=334); (2) Latino/ Hispanics who took the HINTS survey in English (n=430); and (3) Non-Latino/ Hispanics who took the survey in English (n=5345). Linear, multilog and logistic regression analyses were conducted (controlling for age, gender, income, and education) to determine whether differences in responses to CR-HL-related items existed between these groups.

SUMMARY: Latino/ Hispanics who took the HINTS in Spanish were significantly less likely to report a high chance of getting cancer in the future. However, respondents in this group reported a significantly higher frequency of worry about cancer. To better understand the source of observed differences in CR-HL, qualitative testing, such as cognitive interviewing would be informative (re: do the HINTS items "mean the same thing" to respondents in English and Spanish?). Cognitive interviewing would also facilitate improvements in culturally equivalent questionnaire design.

EXHIBITORS

The Cancer Project

The Cancer Project is a collaborative effort of physicians, researchers, and nutritionists who have joined together to educate individuals, families, and the public on the benefits of a healthy diet for cancer prevention and survival.

The Cancer Project provides comprehensive educational materials, conducts clinical research studies, and publicizes the value of a healthy diet in cancer prevention and survival.

The Cancer Project, 5100 Wisconsin Ave, NW, Suite 400, Washington, DC 20016

www.cancerproject.org

Epidemiology and Genetics Research Program, Division of Cancer Control and Population Sciences, National Cancer Institute

The National Cancer Institute's (NCI) Epidemiology and Genetics Research Program (EGRP) manages a comprehensive program of grant-supported, population-based research to increase our understanding of cancer etiology and prevention. About 500 grants are supported annually. EGRP is in the Division of Cancer Control and Population Sciences (DCCPS).
Web site: epi.grants.cancer.gov.

Division of Cancer Epidemiology and Genetics, National Cancer Institute

The Division of Cancer Epidemiology and Genetics (DCEG) carries out a national and international program of population- and family-based studies to elucidate the environmental and genetic determinants of cancer. DCEG is an intramural research unit at the National Cancer Institute (NCI), which is part of the National Institutes of Health, located in a suburb of Washington, D.C.

DCEG is staffed by epidemiologists, geneticists, biostatisticians, and others who are committed to excellence in epidemiologic research and to training the next generation of scientists. The research portfolio includes a variety of investigations that identify and target high-risk and special populations in efforts to uncover the underlying causes of cancer and the means of cancer prevention.

Postdoctoral fellowship training is up to five years under the supervision of DCEG scientists. Fellowships up to three years are offered to doctoral students for dissertation research and to master=s level graduates.

For more information about DCEG: www.dceg.cancer.gov

NOTES

2006
Attendee Questionnaire for Feedback

We are eager to get your feedback regarding this program so we may continue to make the Annual ASPO Meeting suit your professional needs. Please take a moment to fill out this questionnaire and leave it at the registration table, or mail it to the ASPO National Office, 330 WARF Building, 610 Walnut Street, Madison, WI 53726.

What were the most interesting parts of the meeting?

What were the weak points?

What subjects would you like to have covered in future meetings?

What should be covered in greater detail?

Do you have any suggestions for format changes?

Were you able to see and hear adequately?		YES	NO
Should ASPO have more/fewer presented papers?	MORE	FEWER	AS IS
Should ASPO continue providing concurrent sessions?		YES	NO

General suggestions (format, speakers, food, etc…)

Thank you for your time!
Melissa Bondy, President