AMERICAN SOCIETY
of
PREVENTIVE ONCOLOGY

1976-2010

34th ANNUAL MEETING

PROGRAM & ABSTRACTS

March 21-23, 2010

The Marriott North Bethesda Hotel – Bethesda, Maryland

American Society of Preventive Oncology

34th Annual Meeting

Program Co-Chairs:

Wendy Demark-Wahnefried, PhD, RD

University of Alabama - Birmingham

Peter Kanetsky, PhD, MPH

University of Pennsylvania

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. Wendy Demark-Wahnefried** and **Peter Kanetsky**, for their extraordinary commitment in facilitating the development of the program for this meeting, and to the entire 2010 ASPO Program Committee for their hard work on the program.

2010 Program Committee

Wendy Demark-Wahnefried, PhD, Co-Chair
University of Alabama at Birmingham

Peter Kanetsky, PhD, MPH, Co-Chair
University of Pennsylvania

Nancy Avis, PhD
Wake Forest University

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Georgetown University

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University of Colorado Denver

Stephen Hursting, PhD, MPH
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Sara Olson, PhD
Memorial Sloan-Kettering Cancer Center

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The Ohio State University

Alexander Prokhorov, MD, PhD
UT M.D. Anderson Cancer Center

Andrew Rundle, DrPH
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Julie Worthington, PhD
East Tennessee State University

NEXT YEAR . . .

The 35th Annual Meeting of the American Society of Preventive Oncology will be held:

March 6-8, 2011, at the Marriott Renaissance Hotel
Las Vegas, Nevada

Support Acknowledgements

The conference organizing committee wishes to express appreciation to the following organizations and companies for their commitment to continuing medical education by providing educational grants in support of this conference:

National Cancer Institute (conference grant R13 CA094927)
Prevent Cancer Foundation
American Cancer Society

Exhibitors

The conference organizing committee wishes to express appreciation to the following organizations:

Division of Cancer Control and Population Sciences (DCCPS) National Cancer Institute (dccps.nci.nih.gov)

DCCPS aims to reduce the risk, incidence, and deaths from cancer as well as enhance the quality of life for cancer survivors. The Division conducts and supports an integrated program of the highest quality genetic, epidemiologic, behavioral, social, and surveillance cancer research.

Cancer Prevention Fellowship Program, National Cancer Institute

The Cancer Prevention Fellowship Program at the National Cancer Institute provides training for clinicians and scientists in the field of cancer prevention and control. As part of the program, we offer training toward an MPH degree at an accredited university during the first year, followed by mentored research with investigators at the NCI.


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Visit cancercontrol.cancer.gov

Your SOURCE for

- Cancer control research funding announcements and opportunities
- Information about NCI and NIH research policies, such as data sharing and human subjects reporting
- Survey instruments and public use data for many topic areas, such as cancer information seeking, diet, physical activity, tobacco use, health services, and cancer outcomes and survivorship
- Cancer statistics from the SEER and State Cancer Profiles Web sites, among others
- Reports, including the *Cancer Trends Progress Report* and the *Annual Report to the Nation on the Status of Cancer*
- Monographs about tobacco control, diet and physical activity, cancer incidence, patient-centered communication, mortality, and survival
- Intervention products for health communication, nutrition, cancer screening, and smoking prevention and cessation
- Information concerning current trans-NIH and NCI-funded research initiatives
- Cancer control tools and resources such as geographic information systems and cancer risk prediction models
- Upcoming meetings and events
- Employment opportunities in the division

What's NEW

- *Health Disparities Calculator* (HD*Calc) software online
- *Smokefree Women* Web site, with downloadable, interactive social networking features and tools
- *CC Publications*, a searchable database of NCI-funded, peer-reviewed published cancer control research
- Interactive Maps of DCCPS-Awarded Grants in the U.S. and internationally – including a breakout of ARRA-funded projects
- Menthol and Tobacco Web page, highlighting research and resources on the topic
- *Colorectal Cancer Risk Assessment Tool*
- New dietary data and *NHANES Dietary Web Tutorial* for data users
- Twitter Feed with cancer control news and announcements from DCCPS
- *Grid-Enabled Measures (GEM)*, a dynamic database containing behavioral and social science measures
- Cancer Control P.L.A.N.E.T. Cyber-Seminar Series – Interactive sessions on identifying and adapting evidence-based programs
- Open solicitation for *Health Information National Trends Survey* (HINTS) survey questions

National Cancer Institute

CHALLENGE YOURSELF: BE AN NCI FELLOW!

Explore opportunities in Epidemiology, Biostatistics, Genetics

Fellows at the NCI's Division of Cancer Epidemiology and Genetics work with world-class scientists to explore the environmental causes of cancer and new approaches to its prevention. Our research areas include:

- Biostatistics
- Clinical Genetics
- Genetic Epidemiology
- Health Disparities
- Hormonal and Reproductive Epidemiology
- Infections and Immunoepidemiology
- Nutritional Epidemiology
- Occupational and Environmental Epidemiology
- Radiation Epidemiology
- Translational Genomics

At NCI, we offer a range of predoctoral and postdoctoral fellowships with personalized mentoring, as well as specialized training partnerships with several schools of public health. As a DCEG fellow, you are supported as you take on challenges that enable you to grow both scientifically and professionally.

- Design, carry out, analyze, and publish population, family, and laboratory-based studies
- Gain experience in:
  - diverse study designs
  - novel analytic techniques
  - genomics and informatics
- Build skills in:
  - molecular epidemiology
  - grant writing
  - professional communications and networking

Discover what NCI has to offer you – come work with some of the most committed scientists you will ever meet.

For more information and to apply, visit our website:
http://dceg.cancer.gov/ (click on "Fellowships")
Additional inquiries: ncidceged-r@mail.nih.gov
Phone: 301-402-7186

Applications being accepted now for our NCI-funded R25 Postdoctoral Training Program based in the division of Cancer Prevention and Population Sciences (CPPS).

Our vision of cancer prevention extends the "bench to bedside" paradigm of translational research to a "bench to sidewalk" model, integrating basic, clinical, epidemiologic, and population sciences. The program is directed by James Marshall, PhD, Senior Vice President for CPPS, and Mary Reid, PhD, Director of Collaborative Research.

Program goals are:

- To provide individualized didactic and research training that will result in cancer preventionists able to conduct independent, interdisciplinary translational research.
- To guide fellows to link the training in which they are already rounded with additional disciplines that will provide new opportunities in cancer prevention. Trainees will work with a primary mentor in their field and one or more secondary mentors in distinct, yet complementary disciplines.

Open to US Citizens and Permanent Residents. Applications from women and underrepresented minorities are encouraged.

For further information contact:

Alicia E. Tuyn, MBA
Program Coordinator
Cancer Prevention & Population Sciences
Roswell Park Cancer Institute
Elm & Carlton Streets
Buffalo, New York 14263
(716) 845-8721
Alicia.Tuyn@roswellpark.org

1.877.ASK.RPCI (1.877.275.7724)
www.roswellpark.org

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Congratulations to Lovell A. Jones, Ph.D., founder and director CENTER FOR RESEARCH ON MINORITY HEALTH

The University of Texas M. D. Anderson Cancer Center Division of Cancer Prevention and Population Sciences proudly congratulates Lovell A. Jones, Ph.D., founder and director of the Center for Research on Minority Health (CRMH) and professor in the department of Health Disparities Research. In recognition and celebration of his leadership in establishing the first congressionally mandated center focused on minority health in the country, we salute his decade of achievements in the center; his more than 25 years as a highly accomplished scientist, educator, collaborator, innovator, investigator, advocate, and leader in the field of health disparities and prevention; and his unrelenting dedication to helping minority and underserved populations.

Dr. Jones' scientific research focuses on areas of hormonal carcinogenesis, diet and nutritional interventions, health disparities and cancer prevention. He is the co-founder of the Intercultural Cancer Council, the largest multicultural health policy group in the nation and has served in various capacities in many other prestigious organizations.

He has received numerous awards, including the Health Disparities Excellence Award from the National Institutes of Health (NIH) for his contributions toward eliminating health disparities in minority communities.

Other current leadership positions include:

- Principal investigator of the P60 Export Grant addressing environmental health and long-term multidisciplinary research in minority communities
- Founder and chair of the Health Disparities Education, Awareness Research and Training Consortium (HDEART)
- Principal investigator of the Cancer Prevention and Treatment Demonstration Project for Ethnic and Racial Minorities (CPTD)
- Co-founder of the congressionally-recognized National Minority Cancer Awareness Week occurring annually in the third week of April

THE UNIVERSITY OF TEXAS
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Making Cancer History®

CRMH celebrated its10th anniversary in November 2009 and has accelerated its success into another banner year of outstanding funding, unique collaborations and ground-breaking research through Jones' leadership.

The Cancer Prevention Research Training Program

Training Tomorrow's Leaders Today

Preparing scientists to achieve leadership in the field of cancer prevention and control through mentored research experience, education and career development training.

- Multidisciplinary training in all aspects of cancer prevention and population science (e.g., biomedical sciences, public health, behavioral sciences, health disparities research, epidemiology, clinical cancer prevention) with a broad spectrum of faculty mentors with externally funded research.
- Three-year fellowships for predoctoral fellows
- Two-year fellowships for postdoctoral fellows
- Short-term research training for graduate students and underpresented minority undergraduate students
- Short-term research training for qualified upper level undergraduate students through August 31, 2011

Additional information at **www.cancerpreventiontraining.org**

Open for Applications Now!

Contacts:

Shine Chang, Ph.D., Director
shinechang@mdanderson.org

Carrie Cameron, Ph.D., Associate Director
ccameron@mdanderson.org

Robert M. Chamberlain, Ph.D., Co-Principal Investigator
rchamber@manderson.org

Dee Tello, Academic Coordinator
dtello@mdanderson.org

Cancer Prevention Research Training Program – Unit 1365
The University of Texas M. D. Anderson Cancer Center
1155 Herman P. Pressler
Houston, Texas 77230-1439
713-745-2495 (telephone) 713-563-9203 (fax)

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Funded by support from the National Cancer Institute R25E CA56452 and R25T CA57730, Janice Davis Gordon Memorial Fellowship Fund, and Halliburton Employees Fellow in Cancer Prevention.

www.cancerpreventiontraining.org

Behavioral/Social Sciences Research
Postdoctoral Fellowship in Cancer Prevention and Control

A postdoctoral position in behavioral sciences is available in the Biobehavioral and Social Sciences Program group at the University of Arizona Cancer Center (AZCC), Cancer Prevention and Control Program. This position is funded through a R25T grant from the National Cancer Institute. Working closely with senior investigators, the fellow will participate in ongoing research and develop his/her own behavioral or social science research projects. Research projects are flexible and can be tailored to suit individual interests. However, they must contribute to the overall focus of the Biobehavioral and Social Sciences Program http://azcc.arizona.edu/research/bssrp.

The AZCC is particularly interested in developing the careers of those interested in biobehavioral and social sciences research, such as tobacco control, diet and/or physical activity, sun safety, health disparities, cancer screening, risk assessment, cancer communications, behavioral genetics, network and systems analysis, psychosocial oncology, quality of life, cancer survivorship, and health care services. Research opportunities in clinical and community environments are available. A goal of the AZCC is to expand the number of faculty members engaged in biobehavioral research, and to foster translational and transdisciplinary research with a broad array of partners throughout Arizona.

The AZCC is located within the Arizona Health Sciences Center at The University of Arizona in Tucson, Arizona. Members of the Biobehavioral and Social Sciences Program have their academic appointments in a wide variety of departments and colleges, including psychology, communications, nursing, management, family and community medicine, pharmacy, and public health. This breadth creates additional opportunities for R25T fellows to interact with scientists in a wide variety of disciplines. Our location in southern Arizona and research linkages throughout the southwest create the potential to work with diverse populations, including people of Latino and Native American backgrounds.

Potential fellows with doctoral level expertise and interest in biobehavioral research are strongly encouraged to apply. Eligible candidates are U.S. citizens/permanent residents who have completed doctoral-level training (e.g. PhD, PharmD, MD, DrPH or equivalent) by May 2010. For more details about this fellowship opportunity, please visit the R25T Cancer Prevention and Control Fellowship at www.azcc.arizona.edu/academics/cpc-fellowship.

Genetic and Molecular Epidemiology
Postdoctoral Fellowship in Cancer Prevention and Control

The Cancer Prevention and Control Program at the Arizona Cancer Center is seeking applications for postdoctoral research training in the area of genetic and molecular epidemiology. This position is funded through a R25T grant from the National Cancer Institute. Working closely with senior investigators, the fellow will participate in ongoing research and develop his/her own research projects. The goal of the R25 Training Grant is to train successful researchers in the field of cancer prevention and control.

Among the attractions of this position are the potential to work with top-level scientists in genetic/molecular epidemiology and to interact with a wide array of scientists from various disciplines, including basic and population sciences from a number of departments and colleges in the University of Arizona. Current research interests of faculty involved in this program include genetic pathway analyses, gene-lifestyle factor interactions, and dietary intake related to the development of colorectal adenomas, the precursors to colorectal cancer. The AZCC is located within the Arizona Health Sciences Center at The University of Arizona in Tucson, Arizona. Our location in southern Arizona and research linkages throughout the southwest create the potential to work with diverse populations, including people of Latino and Native American backgrounds.

The successful candidate will be grounded in a multidisciplinary approach to cancer prevention and control through formal coursework, seminar series, conferences, and interactions with scientific mentors. Candidates must be willing to work independently as well as in a team setting. Experience in preparation of manuscripts and grants is desirable.

Eligible candidates are U.S. citizens/permanent residents who have completed doctoral-level training (e.g. PhD, PharmD, MD, DrPH or equivalent). We anticipate filling the position by May 1, 2010. For more details about this fellowship opportunity, please visit the R25T Cancer Prevention and Control Fellowship at www.azcc.arizona.edu/academics/cpc-fellowship.

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A National Cancer Institute Designated Cancer Center

Cancer Epidemiologist

The Division of Biostatistics and Epidemiology, Department of Medicine, and the NCI-designated Hollings Cancer Center (HCC) at the Medical University of South Carolina (MUSC) invites applications and nominations for a ***Cancer Epidemiologist*** in a ***tenure-track*** mid to senior level faculty position. The successful candidate will be a well-established cancer epidemiologist with a strong history of peer-reviewed funding and publications, and able to function in a collaborative, interdisciplinary environment while expanding their independent program of research. Faculty will join the HCC Cancer Prevention and Control Program, with an academic appointment in the Division of Biostatistics and Epidemiology.

Situated on a 40-acre campus in Charleston, MUSC is part of a charming historic downtown district, including fine restaurants, an outstanding aquarium, symphony, theaters, history and art, while being surrounded by beautiful beaches. Interested applicants should electronically send a letter of interest, CV, and the names of three references to:

Anthony J. Alberg, Ph.D., M.P.H.
Associate Director of Cancer Prevention and Control
Hollings Cancer Center
alberg@musc.edu

The Medical University of South Carolina is an equal opportunity affirmative action employer. Women and minorities are encouraged to apply.

POST-DOCTORAL TRAINING PROGRAMS IN CANCER PREVENTION & CONTROL

The Moffitt Cancer Center is pleased to announce that we are accepting applications to both of our NCI-funded R25T training programs. Education, training and experience in Behavioral Oncology are provided through a program directed by Dr. Paul Jacobsen. We also have a new R25T in Molecular and Genetic Epidemiology directed by Dr. Kathy Egan. Both of these programs include a specialized curriculum (tailored to the candidate's background, needs and interests), one-on-one interactions with experienced and dedicated mentors and opportunities for research experience on one of the many ongoing studies (our portfolio of peer-reviewed funding is over $20M per year). Visit our Web site (MOFFITT.org) to learn more about the faculty in the Health Outcomes & Behavior Program and the Risk Assessment, Detection and Intervention Program.

Of course, we have the typical sorts of requirements – doctoral degree in a relevant discipline, commitment to research, transcripts and letters of recommendations – plus some. We're looking for energetic young investigators who want to work hard, have fun while doing it, yet with the determination to somehow find a way to enjoy the Tampa area – where there is plenty of sunshine, world class beaches, year-round golf, biking, tennis, great restaurants and museums (we think this part should be easy).

If interested, send an e-mail to Christine.Marsella@Moffitt.org for the Behavioral Oncology Program or Kathleen.Egan@Moffitt.org for the Molecular and Genetic Epidemiology Program.

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University of Michigan
Comprehensive Cancer Center

Senior Faculty Position in Cancer Epidemiology

The University of Michigan School of Public Health invites applications for a senior rank, tenure-track faculty position in Cancer Epidemiology in the Department of Epidemiology. Appointments at the Professor or Associate Professor level will be made commensurate with experience for the position. Our highly interdisciplinary Department is home to internationally recognized researchers using a broad range of epidemiologic methods in diverse substantive areas. Cancer epidemiologists with additional expertise in genetics, social epidemiology, bioinformatics, infectious diseases, or nutrition are particularly encouraged to apply. The University of Michigan Comprehensive Cancer Center also provides exceptional resources for investigators in cancer epidemiology. The Department has highly successful masters and doctoral level training programs. Applicants should have a PhD or MD and advanced training in cancer epidemiology or a related field.

To apply, please provide: a statement of current and future research plans, teaching philosophy and experience, complete curriculum vitae, and names of three potential referees. Send to: Cancer Epidemiology Search Committee, Department of Epidemiology, 1415 Washington Heights, Ann Arbor, MI 48109-2029 or electronically to sherrymt@umich.edu. Review of applications will begin December 1, 2009 and continue until a suitable candidate is identified. Women and minorities are encouraged to apply and the University is supportive of the needs of dual career couples. The University of Michigan is an equal opportunity/affirmative action employer.

New Endowed Chairs for Cancer Research in Genetics, Nutrition, and Molecular Epidemiology Comprehensive Cancer Center University of Alabama at Birmingham

The University of Alabama at Birmingham Comprehensive Cancer Center, along with the Department of Epidemiology in the School Public Health, is currently seeking candidates for the newly endowed *Caldwell Marks Chair in Cancer Molecular Epidemiology*.

The existing strong collaborative research and clinical environment at the University of Alabama at Birmingham will facilitate a close working relationship among the endowed chairs and their respective programmatic activity. This will provide synergy that will lead to outstanding research programs in the genetic, molecular, nutritional, and environmental factors related to cancer development, metastasis, and persistence. Specific areas of investigation could include immunogenetics, pharmacogenetics, and identification of major gene or phenotype modifying genes pre-disposing to cancer or cancer progression; classification, diagnosis and management of cancer; genotype-phenotype complexity; genetic, nutritional and environmental relationships in the development and progression of cancer; and the role of obesity in oncogenesis.

Resources needed to build these programs will be provided to each endowed chair, and the chairs will be encouraged to work collaboratively with each other and with existing resources in the three departments and the Comprehensive Cancer Center. The UAB Comprehensive Cancer Center (www.ccc.uab.edu) has approximately $100 million in annual direct extramural funding, nine major research programs, fifteen shared facilities, and three SPOREs. The Department of Genetics (www.uab.edu/genetics) includes 29 faculty, a portfolio of NIH and other external research support, and hosts university-wide core genomics laboratories. The Department of Nutrition Sciences (www.uab.edu/nutrition) has more than 20 faculty, 90 staff and a robust portfolio of extramural research including two NIH-funded research centers. The Department of Epidemiology (http://www.soph.uab.edu/default.aspx?id=16) has 20 faculty and a large NIH-funded Genetics and Molecular Epidemiology Program and works closely with the Section of Statistical Genetics in the Department of Biostatistics (http://www.soph.uab.edu/ssg/).

The endowed chair is a tenure or tenure-earning position with salary and rank commensurate with the candidates' qualifications. Nominations and applications should include full curriculum vitae and names and addresses of at least three references and should be submitted to:

Caldwell Marks Chair in Cancer Molecular Epidemiology

Tim R. Nagy, PhD
Chairman, Search Committee – Cancer Molecular Epidemiology
University of Alabama at Birmingham
1530 3rd Avenue South, Webb 419
Birmingham, AL 35294-3360
tnagy@uab.edu

UIC Institute for Health Research and Policy
UNIVERSITY OF ILLINOIS AT CHICAGO
SCHOOL OF PUBLIC HEALTH

Post Doctoral Fellowship in Cancer Prevention and Control

The University of Illinois at Chicago Cancer Education and Career Development Program is seeking candidates for a two- to three-year postdoctoral fellowship in cancer prevention and control research. Qualified individuals must have completed a PhD or MD and must be a US citizen or have permanent status.

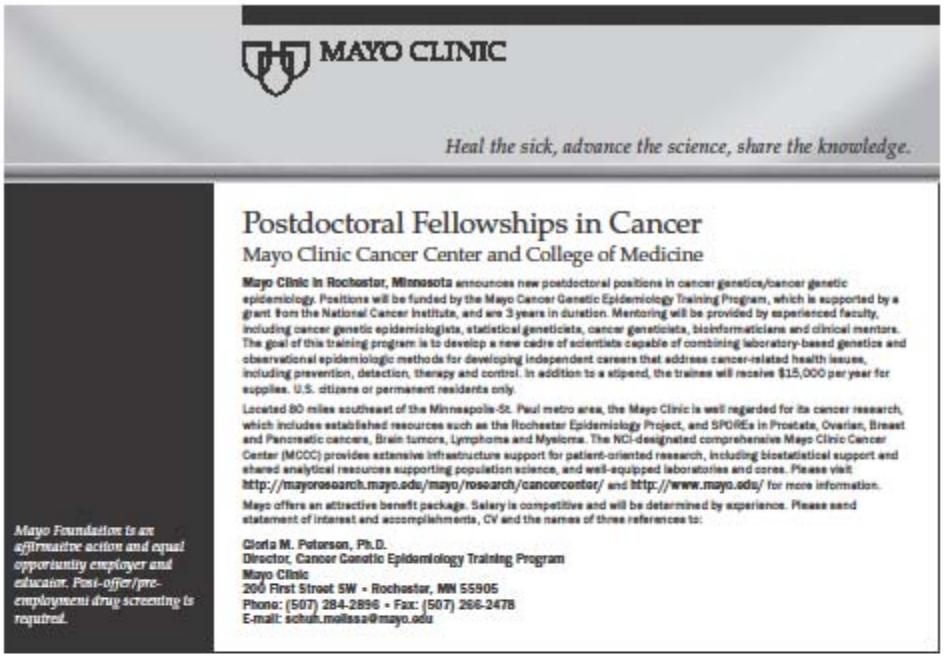
The position will be available beginning the Fall 2010. Applications are being accepted until April 15, 2010.

For further information on the program and the application process, please visit our website at http://cecdp.hrpc.uic.edu, or contact Candice Zahora, University of Illinois at Chicago, Cancer Education and Career Development Program, 1747 west Roosevelt Rd, M/C 275, Chicago, Illinois 60608, Telephone: 312-996-2664 or e-mail: czahora@uic.edu

Please email czahora@uic.edu if you would like us to contact you to discuss the program.

Faith Davis PhD
CECDP C0-Director

Marian Fitzgibbon, PhD
CECDP Co-Director



ASPO Annual Program Book
6.5" x 4.5"
B&W

ASPO – 2010

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President
Electra Paskett, PhD
The Ohio State University
Comprehensive Cancer Center
electra.paskett@osumc.edu

Secretary/Treasurer
Amy Trentham-Dietz, PhD
University of Wisconsin Paul Carbone
Comprehensive Cancer Center
trentham@wisc.edu

Past President
James Marshall, PhD
Roswell Park Cancer Institute
Cancer Prevention & Population Science
james.marshall@roswellpark.org

President-Elect
Peter Shields, MD
Georgetown University
Lombardi Cancer Center
pgs2@georgetown.edu

Special Interest Group Chairs

Chemoprevention
Powel Brown, MD, PhD
Baylor College of Medicine
Breast Center
pbrown@bcm.edu

Diet & Nutrition
Stephen Hursting, PhD, MPH
University of Texas at Austin
Division of Nutritional Sciences
shursting@mail.utexas.edu

Molecular Epidemiology
Peter Shields, MD
Georgetown University
Lombardi Cancer Center
pgs2@georgetown.edu

Screening
Mary Beth Terry, PhD
Columbia University
Department of Epidemiology
mt146@columbia.edu

Tobacco
Alexander Prokhorov, MD, PhD
UT M.D. Anderson Cancer Center
Department of Epidemiology
aprokhor@mdanderson.org

Behavioral Oncology & Cancer Communications
Isaac Lipkus, PhD
Duke University Medical Center
Department of Psychiatry
lipku001@mc.duke.edu

Survivorship
Diana Buist, PhD
Group Health Cooperative
Center for Health Studies
duist.d@ghc.org

International Cancer Prevention
Frank Meyskens, MD
University of California, Irvine
Chao Family Comp. Cancer Center
flmeyske@uci.edu

Executive Committee, cont'd.

Junior Career Development
Suzanne O'Neill, PhD
Georgetown University
sco4@georgetown.edu

At-Large Executive Committee Members

Anita Kinney, PhD
University of Utah
Huntsman Cancer Institute
anita.kinney@hci.utah.edu

Thomas Sellers, PhD
H. Lee Moffitt Cancer Ctr & Res Inst
Cancer Prevention & Control
thomas.sellers@moffitt.org

Mary Beth Terry, PhD
Columbia University
Department of Epidemiology
mt146@columbia.edu

National Office Staff
Heidi Sahel
330 WARF Bldg, 610 Walnut St
Madison, WI 53726
tel: 608/263-9515
hasahel@wisc.edu

GENERAL INFORMATION

Assistance to Participants
The American Society of Preventive Oncology meeting staff is available to provide assistance or information at any time during the meeting. Questions should be addressed to the staff members and volunteers at the Registration Desk.

Poster Session
This year about 90 posters will be on display beginning at 5pm on Monday, March 22, on the ballroom level. Posters can be displayed beginning at noon on Monday (and must be taken down immediately after the poster reception). There will be a Poster Session and Reception on Monday evening from 6pm—8pm. Distinguished panels of senior faculty will select an outstanding poster at this session. Awards will be announced and presented at the close of each session, along with a brief discussion of the winners' merits. *Presenters should be positioned near their posters during the poster session for discussion and judging. All posters not taken down by 8:30pm Monday evening will be taken down and put in the registration area.*

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. There will also be an on-line survey sent soon after the meeting.

ASPO Meeting At – a – Glance
Meeting Details follow this page

ROOM NAME	Saturday – March 20	
Salon F	4pm - 8pm	Part I: Special Workshop for Associate Directors
	Sunday - March 21	
Ballroom Level	7:30am-6pm	Registraton
Salon F	8am - noon	Part II: Special Workshop for Associate Directors for Ca Prev & Control
Great Falls	11am - 2pm	New Investigators Workshop
Seneca Boardroom	12pm-2pm	Working Lunch meeting of the ASPO Executive Committee
Glen Echo	2pm - 3:30	Meeting of R25 PIs
Salon A	2pm-4pm	Career Development Seminar for Junior Faculty, Junior Researchers & Trainees
Salon B-C	4pm - 6pm	General ASPO Session
Salon D	6pm - 8pm	Junior/Senior Social Mixer
	Monday - March 22	
Glen Echo	8 - 10am	Breakfast Session I: Survivorship
White Oak	8-10am	Breakfast Session II: Molecular Epidemiology
	10AM	Networking Break
Salon B-C	10:30-Noon	Concurrent paper Session I - Diet and nutrition
Salon A	10:30 - Noon	Concurrent paper Session 2: Tobacco
Salon B-C	Noon-12:30pm	Dist. Achievement Award
Salon B-C	12:30pm - 2pm	Best of CEBP session
Salon B-C	2pm - 3:30pm	Symposium 1: Oral Cancer Screening
	3:30-4pm	Networking Break
Salon B-C	4pm - 5:30pm	Symposium 2: Physical Activity
Ballroom Area & Salon A	6pm-8pm	Poster Session & Reception Presentation of best poster awards
	Tuesday - March 23	
	7:30am - 3pm	Registration
White Oak A	8am -10am	Breakfast Session I: International Cancer Prevention
Glen Echo	8am - 10am	Breakfast Session II: Behavioral Oncology
	10-10:30am	Networking Break
Salon A-B	10:30-Noon	Concurrent Paper session 3:Epidemiology
White Oak B	10:30- Noon	Concurrent Paper session 4:Survivorship
Salon A-B	Noon-12:30pm	Joe Cullen Award Address
White Oak A	12:30 - 2pm	Concurrent Lunch 1: Career Development
Glen Echo	12:30 - 2pm	Concurrent Lunch 2: Senior Attendees
Salon A-B	2pm - 3:30pm	Symposium 3: Health Disparities
	3:30pm	Conclusion of ASPO Meeting

ASPO 2010 - Program Details

Saturday, March 20, 2010

4pm—8pm **Part I: Special Workshop for Population Science Program**
Salon F Leaders & Associate Directors for Cancer Prevention & Control

Sunday, March 21, 2010

8am—5pm **Registration**
(ballroom foyer)

8am—Noon **Part II: Special Workshop for Population Science Program**
Salon F Leaders & Associate Directors for Cancer Prevention & Control

8am—Noon **20th Annual NCI–Funding Cancer Prevention and Control Fellows Workshop** (by invitation only)
Organizer: Shannon Lemrow-Silkensen, PhD, NCI

Note special venue location:
NIH Neuroscience Center, 6001 Executive Blvd
Bethesda, MD

11am—2pm **New Investigators Workshop** (open to accepted applicants)
Great Falls Organizer: **Judith Jacobson, DrPH**
Columbia University Mailman School of Public Health

Workshop Faculty:
Li Li, MD, PhD, Case Western Reserve University
M. Elena Martinez, PhD, MPH, University of Arizona
Joshua Muscat, PhD, Penn State University

Workshop Participants:
Scott V. Adams, PhD, Fred Hutchinson Cancer Research Center
Jessica Clague, MPH, UT M.D. Anderson Cancer Ctr & City of Hope
Anna E. Coghill, MPH, University of Washington
Yuan-Chin Amy Lee, PhD, University of Utah
Yani Lu, PhD, City of Hope
Hazel Nichols, MS, Johns Hopkins University
Sung-Shim Lani Park, MPH, University California, Los Angeles

Sunday, March 21, 2010 (cont.)

Noon—2pm **ASPO Executive Committee Working Lunch**
Seneca Boardroom (Executive Committee members only)

2pm—3:30pm **NCI Meeting for R25T Investigators**
Glen Echo

2pm—4pm **Career Development for Junior Faculty, Junior Researcher**
Salon A **& Trainees** (open to all ASPO attendees)

Keys to Success in Finding and Negotiating a Position in Preventive Oncology

This panel discussion will focus on tips for identifying the right job and negotiating a good starting package. Topics will include:

1) Government jobs and finding one that fits your career goals
2) Finding a job that is a good fit
3) Negotiating a job in academia

Session Panelists:
David E. Nelson, MD, MPH, National Cancer Institute
Michael Scheurer, MPH, PhD, Baylor College of Medicine
Jill Barnholtz-Sloan, PhD, Case Western Reserve University
Timothy Rebbeck, PhD, University of Pennsylvania
Julie Worthington, PhD, East Tennessee State University

ASPO Career Development Seminars are sponsored by the Prevent Cancer Foundation

4pm—4:45pm **ASPO GENERAL MEETING BEGINS**
Salon B-C **Town Hall meeting** (<u>all</u> ASPO attendees are encourage to attend)
ASPO 2011 and Beyond: discussion and strategies

- Findings of the "Future of ASPO" ad hoc committee
- Voice your opinion on what you want from ASPO
- ASPO general business meeting

4:45pm—6pm **OPENING SESSION**
Salon B-C Welcome: ASPO President, **Electra Paskett, PhD**, The Ohio State University
Chair: **Electra Paskett, PhD,** The Ohio State University
Peter Bach, MD, Memorial Sloan-Kettering Cancer Center
Affecting Change in Cancer Prevention and Control: The Interplay of Science and Politics

6pm—8pm **Junior/Senior Member Social Mixer** (dinner on your own)
Salon D Join old friends and colleagues and make new ones at the mixer function. Hors d'oeuvres will be served, and one free drink ticket is supplied (cash bar otherwise).

ASPO is known for networking and on Sunday night we'll kick-off the evening with a brief speed-networking session - don't miss it!

Preparation is simple- Just choose an appropriate name tag when you check in. If you are a New Investigator (meaning no R01 just yet), be sure to get a "New Investigator" name tag at registration.

If you have had R01 level funding and are a senior investigator, get a "Senior Investigator" Name Tag when you check in and fill-in the blank that says "Ask me about _____." (please limit yourself to cancer-related topics).

The jazz duet for the social mixer generously provided by The Ohio State Comprehensive Cancer Center.

ASPO 2010 - Program Details

Monday, March 22, 2010

7:30am—5pm **Registration**
Ballroom foyer

8am—10am **Hot Topics Concurrent Special Interest Group Breakfast Sessions**

Glen Echo **Breakfast Session 1: Survivorship**
Co-Chairs: **Wendy Demark-Wahnefried, PhD, RD,** University of Alabama at Birmingham and **Oxana Palesh, PhD, MPH,** University of Rochester Medical Center

Surviving Cooperative Groups in Order to Conduct Survivorship Research

- *Cancer Survivorship Research within the Cooperative Group Setting*, **Julia Rowland, PhD,** Director, Office of Cancer Survivorship
- *What are NCI Cooperative Groups?* **Lori Minasian, MD, PhD**, National Cancer Institute
- *Panel discussion:*
  CALGB: **Electra Paskett, PhD, and Lee Jones, PhD**
  CCOP: **Wendy Demark-Wahnefried, PhD** & **Karen Mustian, PhD**
  GOG: **Karen Basen-Engquist, PhD**
  NCCTG: **Jeff Sloan, PhD**

White Oak **Breakfast Session 2: Molecular Epidemiology**
Chair: **Peter Shields, MD,** Georgetown University

Phenotypes of Cancer Risk: Still Relevant in the Genomic Era?

- *Treatable Biomarkers of Risk for Colon Cancer*, **Roberd Bostick, PhD**, Emory University
- *One Carbon Metabolism Phenotypes and Breast Cancer*, **Peter Shields, MD,** Georgetown University
- *Nonmelanoma Skin Cancer: Marker of a High Cancer-risk Phenotype?* **Anthony Alberg, PhD**, Medical University of South Carolina
- *General Discussion*, **Timothy Rebbeck, PhD**, University of Pennsylvania

10am—10:30am **Networking Break**

10:30am—Noon **Concurrent Paper Sessions**

Salon B-C **Paper Session 1: Diet and Nutrition** (abstracts follow)
Chair: **Stephen Hursting, PhD**, University of Texas at Austin

- *Circulating 25-Hydroxyvitamin-D and Risk of Colorectal Adenomas and Hyperplastic Polyps*, **Scott V. Adams, PhD**, Fred Hutchinson Cancer Research Center
- *PACE+ Nutrition and Exercise Counseling for Obese Patients Based on Stage of Change at an Urban Primary Care Clinic*, **Eileen Seeholzer, MD, MS,** Case Western Reserve University
- *Why are Obese Women Less Likely to get Screened for Colon Cancer?*, **Lucia Leone, PhD,** UNC - Chapel Hill
- *Reduced Mitogenicity of Sera Following Weight Loss in Premenopausal Women,* **Maria Azrad, MS, RD,** University of Alabama at Birmingham
- *Epidemiologic Studies of Isoflavones and Mammographic Density*, **Gertraud Maskarinec, MD, PhD,** University of Hawaii

Salon A **Paper Session 2: Tobacco** (abstracts follow)
Chair: **Alexander Prokhorov, MD, PhD**, UT M.D. Anderson Cancer Center

- *A Pooled Analysis on the Associations between Involuntary Smoking and Lung Cancer Risk by Histological Types*, **Yuan-Chin Amy Lee, PhD,** UCLA School of Public Health
- *The Effect of Smoking on Side Effects among Cancer Patients throughout Treatment: a URCC CCOP Study of 947 Patients*, **Luke Peppone, PhD,** University of Rochester Medical Center
- *The Relationship Between Anthropometry, Cigarette Smoking, Alcohol Consumption and Non-Hodgkin Lymphoma in the PLCO Trial*, **Jesse Troy, MPH,** George Washington University
- *Perceptions of Risk, Worry, and Mental Representations of Lung Cancer among Current Smokers, Former Smokers, and Non-Smokers*, **Lila Rutten, PhD, MPH**, SAIC, Inc., and National Cancer Institute
- *Tobacco Use Intervention Tailored for Radiation Oncology Patients: A Pilot Study*, **Yolanda Garces, MD**, Mayo Clinic

Noon—12:30pm **Distinguished Achievement Award Address**
Salon B-C **Paul F. Engstrom, MD,** Fox Chase Cancer Center
Cancer Prevention & Control Research: Four Decades of Progress

The Distinguished Achievement Award is sponsored by the American Cancer Society

12:30pm—2pm **Lunch on your Own/Poster Set-up**

12:30pm—2pm **The Best of Cancer Epidemiology, Biomarkers & Prevention**
Salon B-C (limited number of box lunches available for purchase)
Chair: **Timothy Rebbeck, PhD,** University of Pennsylvania

- Church TR, Anderson KE, Caporaso NE, Geisser MS, Le CT, Zhang Y, Benoit AR, Carmella SG, Hecht SS. *A Prospectively Measured Serum Biomarker for a Tobacco-Specific Carcinogen and Lung Cancer in Smokers*, 2009 Jan;18(1):260-6. **Timothy Church, PhD,** University of Minnesota
- Johnson JR, Lacey JV Jr, Lazovich D, Geller MA, Schairer C, Schatzkin A, Flood A. *Menopausal Hormone Therapy and Risk of Colorectal Cancer*, 2009 Jan;18(1):196-203. **James V. Lacey, Jr., PhD,** City of Hope
- Irwin ML, Varma K, Alvarez-Reeves M, Cadmus L, Wiley A, Chung GG, Dipietro L, Mayne ST, Yu H. *Randomized Controlled Trial of Aerobic Exercise on Insulin and Insulin-like Growth Factors in Breast Cancer Survivors: The Yale Exercise and Survivorship Study,* 2009 Jan;18(1):306-13. **Melinda Irwin, PhD,** Yale School of Medicine

2pm—3:30pm **Symposium 1: Oral Cancer Screening and Early Detection**
Salon B-C Chair: **Deborah Glueck, PhD,** University of Colorado Denver

- *Oral Cancer Screening: Current Realities and Future Opportunities***, Mark Lingen, DDS, PhD**, University of Chicago
- *Engaging the Community in Early Detection and Prevention Practices***, Henrietta Logan, PhD**, University of Florida
- *Approaches to Early Detection of Cancer***, Lawrence Tabak, DDS, PhD**, National Institute of Dental and Craniofacial Research (NIDCR)

Monday, March 22, 2010 (cont.)

3:30pm—4pm **Networking Break**

4pm—5:30pm **Symposium 2: Physical Activity and Cancer Prevention**
Salon B-C Chair: **Andrew Rundle, DrPH,** Columbia University

Towards Understanding the Biological Mechanisms

- *Survival of the Fittest: The Protective Properties of Exercise on Cancer Prevention and Prognosis*, **Lee Jones, PhD,** Duke University Medical Center
- *Physical Activity and Cancer Risk: Insights from Preclinical Models*, **Henry Thompson, PhD**, Colorado State University
- *Exercise and Cancer Risk: Etiologic Evidence from Intervention Studies*, **Kathryn Schmitz, PhD, MPH**, University of Pennsylvania

6pm—8pm **Poster Session & Reception** (dinner on your own)
Salon A Hors d'oeuvres will be served, and one free drink ticket is supplied (cash bar otherwise).

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

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ASPO 2010 - Program Details

Tuesday, March 23, 2010

7:30am—2pm **Registration**

8am—10am **Hot Topics Concurrent Special Interest Group Breakfast Sessions**

White Oak A **Breakfast Session 1: International Cancer Prevention**
Chair: **Frank Meyskens, MD,** University of California, Irvine

- *Setting up the Middle East Cancer Center Consortium*, **Hoda Anton-Culver, PhD,** University of California, Irvine
- *American-Russian Cancer Alliance (ARCA)*, **Paul F. Engstrom, MD,** Fox Chase Cancer Center
- *Challenges in Implementing a Trial of H. pylori Eradication in Latin America*, **Robert Greenberg, MD,** Fred Hutchinson Cancer Research Center/SWOG

Glen Echo **Breakfast Session 2: Behavioral Oncology & Cancer Communication**
Chair: **Isaac Lipkus, PhD**, Duke University

The Role of Biomarkers in Cancer Prevention and Control

- **Jennifer McClure, PhD,** Group Health Cooperative
- **Noel Brewer, PhD,** University of North Carolina
- **Suzanne O'Neill, PhD,** Georgetown University

10am—10:30am **Networking Break**

10:30am—Noon **Concurrent Paper Session**

Salon A-B **Paper Session 1: Epidemiology** (abstracts follow)
Co-Chairs: **Peter Kanetsky, PhD, MPH**, University of Pennsylvania and **Sara Olson, PhD,** Memorial Sloan-Kettering Cancer Center

- *Comparison of Two Methods for Survival Analysis in Brain Tumor Patients: Preliminary Results*, **Kimberly Porter, MPH**, University of Illinois School of Public Health
- *Focus on Survivorship: Refining Complete Prevalence Estimates Using Local Cancer Registry Data*, **Sara Wobker, MD, MPH,** University of North Carolina

- *Epidemiology of Second Primary Colorectal Cancers in Colorectal Cancer Survivors from California Cancer Registry*, **Kavitha Raj, MD,** University of California, Irvine
- *Associations of serum Insulin-like Growth Factor (IGF)-1 and IGF Binding-protein-3 levels with Malignant Melanoma*, **Sung Shim Lani Park, MPH**, University of California, Los Angeles
- *Oral Contraceptive, Menopausal Hormone Therapy Use and Risk of Non-Hodgkin Lymphoma in the California Teachers Study***, Yani Lu, PhD**, City of Hope

10:30am—Noon **Paper Session 2: Survivorship** (abstracts follow)
White Oak B Chair: **Nancy Avis, PhD,** Wake Forest University
Discussant: **Anita Kinney, PhD,** University of Utah

- *Socioeconomic Status and Survival after an Invasive Breast Cancer Diagnosis*, **Brian Sprague, PhD**, University of Wisconsin
- *Expression of Inflammatory Molecules Among Breast Cancer Patients Receiving Different Chemotherapies: Implications for Chemobrain*, **Michelle Janelsins, PhD**, University of Rochester Medical Center
- *Menopausal Hormone Therapy influences Lung Cancer Survival but not Lung Cancer Risk: Results from the California Teachers Study*, **Jessica Clague, MPH**, City of Hope
- *Test of a Weight Gain Prevention Intervention in Stage II and III Breast Cancer Patients Receiving Neoadjuvant Chemotherapy*, **Karen Basen-Engquist, PhD, MPH**, UT M.D. Anderson Cancer Center
- *Promoting Exercise Among Colorectal Cancer Survivors***, Bernardine Pinto, PhD,** Miriam Hospital and W. Alpert Medical School of Brown University

Noon—12:30pm **Joe Cullen Award Address**
Salon A-B **Jasjit Ahluwalia, MD, MPH,** Executive Director, Center for Health Equity, An NIH Center of Excellence, University of Minnesota Medical School

Tobacco Dependence and Smoking Cessation in African Americans – Some Answers, Many Questions

12:30pm—2pm **Concurrent Lunch Programs**

White Oak A **Lunch 1: Career Development for Junior Faculty, Researchers and Trainees** (open to all attendees; a limited number of box lunches will be provided)
Chair: **Julie Kapp, PhD,** University of Missouri School of Medicine

Grant Writing: Overviews, Updates, and Insights

The seminar will focus on practical tips and information related to grant writing, including: 1) an overview of various funding sources (public and private) and grant types,2) the new NIH scoring criteria, and 3) an insider's perspective on study sections. Panelists are:

Gayle Mowbray Walters, MS, MAS; Johns Hopkins Medicine
Denise G. Wiesch, Ph.D.; Center for Scientific Review, NIH
Mary E. Reid, PhD*; Roswell Park Cancer Institute*

ASPO Career Development Seminars are Sponsored by the Prevent Cancer Foundation

Glen Echo **Lunch 2: Senior Attendees Lunch** (open to all attendees; limited number of box lunches available)
Chair: **Bob Chamberlain, PhD,** UT M.D. Anderson Cancer Center

Tips on Finding Good Junior Talent

2pm—3:30pm **Symposium 3: Health Disparities in Cancer Prevention and Control**
Salon A-B
Chair: **Lucile Adams-Campbell, PhD**, Georgetown University

- *The A's, G's, C's, and T's of Health Disparities,* **Charles Rotimi, PhD,** NIH/NHGRI
- *Integrating Cancer Prevention and Control into Systems Serving Low-income and Minority Americans,* **Matthew Kreuter, PhD,** Washington University in St. Louis
- *Disparities in Breast Cancer Risk Between African American and White American Women,* **Lisa Newman, MD,** University of Michigan

3:30pm **Conclusion of ASPO annual meeting**

PAPER SESSION ABSTRACTS
Monday, March 22, 2010
Diet and Nutrition

Scott V. Adams, PhD	Eileen Seeholzer, MD, MS
Circulating 25-Hydroxyvitamin-D and Risk of Colorectal Adenomas and Hyperplastic Polyps Adams S, Newcomb P, Burnett-Hartman A, Mandelson M, Potter J Background: Colorectal adenomas are clear precursors of cancer; hyperplastic polyps have recently been hypothesized to also have malignant potential. However, these two distinct colorectal lesions are probably on different molecular pathways to neoplasia. An inverse association between vitamin D and adenoma risk has been reported, but this is the first study, to our knowledge, that examines circulating 25(OH)D in relation to risk of hyperplastic polyps. Methods: We conducted a colonoscopy-based case-control study of adenomas and hyperplastic polyps among 474 members of a large integrated health plan. Self-administered questionnaires provided data on demographics and colorectal polyp risk factors, and we assayed plasma samples donated by participants at the time of the colonoscopy for total 25-hydroxyvitamin-D (25(OH)D) concentration. Polytomous regression was used to estimate separate odds ratios for adenomas (n=153) and hyperplastic polyps (n=91) by tertile of 25(OH)D. Results: An inverse association between 25(OH)D and adenomas was observed (comparing upper to lower tertiles: adjusted OR [95%CI]: 0.60 [0.34-1.08]). After restriction of the analyses to study participants with no history of polyps, this OR estimate moved further from the null and became statistically significant (adjusted OR [95%CI]: 0.43 [0.20-0.96]). In comparison, no statistically significant association between hyperplastic polyps and 25(OH)D was observed among the full study participants (adjusted OR [95%CI]: 1.12 [0.59-2.13]) nor among those without prior polyps (adjusted OR [95%CI]: 1.27 [0.57-2.35]). Conclusions: There is no evidence in our study that the established inverse association between circulating 25(OH)D and colorectal adenoma applies to hyperplastic polyps.	PACE+ Nutrition and Exercise Counseling for Obese Patients Based on Stage of Change at an Urban Primary Care Clinic G.Sun; S. Peechakara; C.L. Thomas; E.L. Seeholzer BACKGROUND: Obesity screening and behavioral counseling for adults is recommended but rarely feasible to reduce the risk of developing cancer and many chronic diseases. We initiated obesity screening at an urban clinic and offered obese patients tailored counseling using PACE+, a validated tool designed for the primary care setting. AIM: To evaluate obesity screening rates, readiness to change, preferences for change and change in BMI in patients counseled with PACE+. METHODS: Electronic medical record (EMR) review of patient data from May 2006 to March 2008. Analyses comparing stage of change to patient characteristics was conducted using the Cochran-Armitage Trend Test. Bivariate comparisons of the continuous items were analyzed using the Chi-square. RESULTS: Of 5,390 patients in the clinic practice, 2532 (47%) were obese, 2269 (42%) were normal or overweight, and 589 (11%) were not screened. PACE+ educators counseled 843 obese patients (33%) May 2006-March 2008. Mean age 50, mean BMI 39, 79% female and 98% African American. 31% of PACE+ participants had hypertension, diabetes mellitus and hyperlipidemia. Stage of change for exercise was most often contemplation (38%) and preparation (40%). The preferred activity was walking (62%). Most cited reasons to change behavior were to lower blood pressure, improve health, reduce weight, and increase energy. Most reported activity barriers were pain (20%), weather (13%), and time (10%). Most patients rated their stage of change for reducing calories as preparation (62%). Anticipated nutrition adherence barriers were “will-power,” cost, and time. Participants rated their self-confidence for activity and dietary changes highly. A trend to weight stabilization and weight loss was observed with follow-up. CONCLUSION: Obesity screening and a structured low-intensity behavioral counseling by educators was feasible and reached 33% of obese patients in the practice. PACE+ evaluation in the EMR provides retrievable and measurable information about patient stage of change, preferences and perceived adherence barriers. This data can direct efforts to link community and personal resources to optimize behavioral and weight outcomes. Pain cited as an activity barrier by 20% needs further study.

Lucia Leone, PhD	Maria Azrad, MS, RD
Why are obese women less likely to get screened for colon cancer? Lucia Leone, Monica Lindgren, Marci Campbell Obese women are at higher risk for colon cancer, but are also less likely to get screened. We conducted 7 focus groups (FGs) with unscreened obese women (BMI ≥ 30) aged 50 and older (N=31) to uncover reasons for lower screening rates and guide development of colorectal cancer (CRC) screening messages. Topics discussed included knowledge, perceived benefits and barriers to screening, patient-provider communication, and healthcare decision-making. Survey items measuring psychosocial correlates of screening were created or modified based on FG results. Next, an online survey was conducted with 109 obese and 98 non-obese white women. Chi-square tests were used to examine differences between weight groups. Obese women were less likely to be up-to-date with CRC screening (61.5% vs. 74.5%, p=0.046), but reported no differences in CRC knowledge, screening intentions or screening self-efficacy. While FG participants saw themselves as being average risk for CRC, survey results indicated that obese women had somewhat higher perceived susceptibility than non-obese women (p=0.06). As was hypothesized based on FG results, obese women were more likely to agree (p<0.05) with several barriers including: CRC screening is too embarrassing, I don't need screening unless I have symptoms, I have other health concerns which are a priority, and I am already spending too much on other health problems. FGs indicated that obese women often delayed care because of weight-related issues such as embarrassment or poor treatment by providers; however most women agreed that this was no longer an issue now that they were older. Survey results did not reveal any differences in healthcare satisfaction or patient-provider communication between weight groups. Women also reported similar influences on their preventive care decisions with one exception; obese women were less likely to state that they discussed potential tests with friends or family before making a decision (5.5% vs. 13.3%, p=0.05). In conclusion, FGs uncovered several barriers to CRC screening among obese women; survey data confirmed that many of these barriers are more prevalent in higher weight groups. These results can be used to inform future interventions to increase CRC screening among obese women.	Reduced mitogenicity of sera following weight loss in premenopausal women Azrad M, Gower BA, Hunter GR, Nagy TR Caloric restriction (CR) and exercise have been associated with decreased risk for certain cancers. It is hypothesized that energy deprivation in the form of CR and increased energy expenditure in the form of exercise results in lower body weight and mediates a number of circulating serum components such as growth factors and cytokines that influence phases of the cell cycle. We tested this hypothesis by culturing endometrial cells with media supplemented with sera from 48 over weight (BMI 27-29) premenopausal women who were randomized to CR (n=15), CR + aerobic exercise (AE) (n=13) or CR + resistance training (RT) (n=22) in order to achieve normal body weight (BMI≤24). Sera from the over-weight and weight-reduced state, at a concentration of 1.25%, were added to culture media containing 3.75% charcoal stripped fetal bovine serum. Cells were initially serum starved for 48 h to synchronize cell cycle and then cultured with human sera from both over weight and normal weight time periods for 48 hours. Cells were collected and cell cycle was assessed using flow cytometry. Paired t-test analysis showed that overall, there was a significant increase in G0/G1 (55.5% vs. 56.1%, p=0.001), and decrease in S-phase and G2/M phase (27.6% vs. 27.1%, p=0.009 and 17.4% vs. 16.7%, p=0.008, respectively). Least-squared means from analysis of covariance showed that there were no significant differences among the three weight loss groups for any phase of the cell cycle although cells cultured with sera from the CR+RT group had more cells in the S-phase compared to the CR group but this did not reach statistical significance (27.5± 0.25 vs. 26.7±0.28, p=0.085). In conclusion, CR may have a greater impact on reducing DNA synthesis compared to CR+RT. This ex vivo cell culture study shows that sera from the overweight state compared to normal weight state is more mitogenic. This work was supported by R25 CA047888, P30 DK56336, P60 DK079626, and P30 CA013148.

Gertraud Maskarinec, MD, PhD	
Epidemiologic studies of isoflavones and mammographic density Maskarinec G, Verheus M, Tice JA Purpose. This review summarizes studies that have examined the association of isoflavones with mammographic density, a strong predictor of breast cancer that increases in response to exogenous steroid hormones. Isoflavones contained primarily in soy beans have been examined for cancer protective effects due to their estrogen-like properties. Methods. Our search identified 6 reports from 5 cross-sectional investigations, one longitudinal analysis, and 8 publications from 7 randomized trials. All observational studies except one included women of Asian ancestry, while all but two interventions from Hawaii were conducted in Caucasian populations who did not regularly consume foods with high isoflavone content. Results. Observational investigations in Hawaii and Singapore suggest slightly lower breast density among women of Asian descent, but 2 larger studies from Japan and Singapore did not observe any evidence for a protective effect. With great consistency, the 7 randomized trials indicate that soy or isoflavones do not modify breast density before or after menopause. Whereas the short duration, the limited sample sizes, the variety of supplements and foods, and the different density assessment methods may have been responsible for a lack of an effect in the trials conducted so far, it appears probable that isoflavones do not modify breast density in adult women who consumed few isoflavones during childhood and adolescence. Unfortunately, no data on the effects of soy in women under 40 years of age are currently available because the risk of radiation outweighs the benefits of mammography. Therefore, it has not been possible to examine the hypothesis that soy exposure early in life reduces breast cancer risk. Conclusions. The current evidence offers reassurance to those who are concerned about adverse effects of isoflavones on breast cancer risk. The consumption of soy foods and isoflavone supplements within a nutritional range does not appear to modify breast cancer risk as assessed by mammographic density. However, it remains possible that long-term soy exposure may offer protection against breast cancer through an alternate mechanism. In the future, we need novel breast imaging approaches to understand how soy affects breast cancer risk earlier in life.	

PAPER SESSION ABSTRACTS
Monday, March 22, 2010
Tobacco

Yuan-Chin Amy Lee, PhD	Luke Peppone, PhD
A Pooled Analysis on the Associations between Involuntary Smoking and Lung Cancer Risk by Histological Types. Lee YA, Hung R, Boffetta P, Brennan P, Yang P, Zhang ZF, et al. BACKGROUND While the association between involuntary tobacco smoke exposure and lung cancer is well established, few studies with sufficient power have been conducted to evaluate the relationship between involuntary smoking (IS) and lung cancer by histological type, especially for the association between IS and small cell lung cancer among nonsmokers. METHODS We evaluated the associations between IS and lung cancer by histological type based on a pooled data of the International Lung Cancer Consortium (ILCCO). The individual-level epidemiological data from 17 participating studies were pooled, including 2,218 non-smoking lung cancer cases and 6,243 non-smoking controls. Logistic regression models were used to obtain adjusted odds ratios (OR) and 95% confidence intervals (CI), using SAS v9. Likelihood ratio tests were used to assess heterogeneity by study site. RESULTS Among never tobacco smokers, IS exposure was associated with lung cancer with an adjusted OR of 1.33 (95% CI 1.18, 1.50), compared to never exposure to IS, when adjusting for age, sex, ethnicity, and study site. Similar associations were observed in different histological types of lung cancer with adjusted ORs of 1.38 (95% CI 0.97, 1.98) for squamous cell carcinoma, 1.26 (95% CI 1.08, 1.46) for adenocarcinoma, 2.92 (95% CI 1.55, 5.48) for small cell lung cancer, and 1.30 (95% CI 1.14, 1.49) for non-small cell lung cancer. Similar associations with ever IS exposure were observed when the overall population including nonsmokers and smokers was included in the analysis. No apparent association was observed with IS exposure in childhood. CONCLUSION This is the first study with a relatively large sample size investigating the relationship between IS exposure and small cell lung cancer among nonsmokers. Our results corroborated the association between IS and lung cancer regardless of histological types, including adenocarcinoma, and we observed the strongest association between IS and small cell lung cancer. Our study provides more precise estimates of the impact of IS on major histological types of lung cancer and suggests the importance of smoking intervention for lung cancer prevention, especially for small cell lung cancer type.	The effect of smoking on side effects among cancer patients throughout treatment: a URCC CCOP Study of 947 Patients Peppone L, K Mustian, O Palesh, K Piazza, M Janelsins, J Roscoe, L Sprod, G Morrow Background: Cigarette smoking during cancer treatment adversely affects overall survival, disease-free survival, and disease recurrence. Very few studies investigated the effect of smoking on cancer-related side effects, but smoking in cancer patients represents an important problem because it may exacerbate side effects, which could lead to treatment interruptions and compromised treatment efficacy. Purpose: To examine the influence of cigarette smoking on side effects among 947 cancer patients throughout treatment. Methods: Patients diagnosed with cancer and scheduled to receive chemotherapy and/or radiation therapy reported on current smoking status (yes, no) and the severity (on an 11-point scale ranging from 0 “Not Present” to 10 = “As Bad as You Can Imagine”) of 12 side effects (fatigue, hair loss, memory, nausea, depression, sleep, pain, concentration, hot flashes, weight loss, skin problems, and shortness of breath) at pre-treatment, during treatment, and 6-month follow-up. The total mean of the aforementioned side-effects was determined for self-reported smokers (S) and non-smokers (NS) using ANCOVA controlling for sociodemographic variables, treatment, cancer site, and Karnofsky score. Results: S were more likely to be non-Caucasian, younger, single, and less educated (all $P<0.05$) than NS. S reported a higher total mean side effect severity than NS prior to treatment (S=1.73 vs. NS=1.47; p=0.02), during treatment (S=3.91 vs. NS=3.43; p=0.03), and at 6-month follow-up (S=2.34 vs. NS=1.80; $p<0.01$). S also reported a greater increase in total mean side effect severity from pre-treatment to treatment (S=+2.48 vs. NS=+2.05; p=0.04). S who quit smoking (Q) between baseline and 6-month follow-up reported lower total mean side effect severity than S who continued to smoke at 6-month follow-up (Q=1.36 vs. S=2.34; p=0.04). Conclusion: S reported greater side effect severity compared to NS prior to treatment, during treatment, and at 6-month follow-up. S also experienced a greater increase in side effect severity than NS from pre-treatment to treatment. S who quit reported lower side effect severity than S who continued smoking. Targeted cessation efforts for S to decrease side effect severity may limit the likelihood of treatment interruptions.

Jesse Troy, MPH	Lila Rutten, PhD, MPH
The Relationship Between Anthropometry, Cigarette Smoking, Alcohol Consumption and Non-Hodgkin Lymphoma in the PLCO Trial Troy J, Hartge P, Weissfeld J, Oken M, Colditz G, Mechanic L, Morton L Background. Prospective studies of lifestyle and non-Hodgkin lymphoma (NHL) are conflicting and some are inconsistent with case-control studies. Methods. The Prostate, Lung, Colorectal and Ovarian (PLCO) Cancer Screening Trial was used to evaluate the risk of NHL and subtypes associated with anthropometry, smoking, and alcohol in a prospective cohort study. Lifestyle was assessed via questionnaire among 142,982 male and female participants ages 55-74 enrolled in PLCO during 1993-2001. Hazard ratios (HR) and 95% confidence intervals (CI) were calculated using Cox proportional hazards regression. Results. During 1,201,074 person-years of follow-up through 2006, 1,264 histologically confirmed NHL cases were identified. Higher BMI at ages 20, 50, and baseline was associated with increased NHL risk (P-trend < .01 for all; e.g., BMI at age 20, highest versus lowest quartile: HR=1.31, 95% CI=1.11-1.54). Smoking was not associated with NHL overall but was inversely associated with follicular lymphoma (ever versus never smoking: HR=0.62, CI= 0.45-0.85). Alcohol consumption was unrelated to NHL (P-trend = .187 for drinks/week). Conclusions. Our data support previous studies suggesting BMI is associated with NHL but unexpectedly show an inverse association between smoking and follicular lymphoma, perhaps due to residual confounding, and do not support a causal association between alcohol and NHL.	Perceptions of Risk, Worry, and Mental Representations of Lung Cancer among Current Smokers, Former Smokers, and Non-Smokers. Rutten L, Augustson E, Evans S. Unprecedented opportunities to reach smokers with warning messages through FDA regulatory authority of tobacco products underscore the importance of understanding the ways in which smokers' mental representations of lung cancer, perceptions of risk and worry differ from non-smokers and relate to intentions to quit. Our study examined differences in perceived risk, worry, and mental representations of lung cancer between current, former and never smokers, and assessed associations with intentions to quit among current smokers. We used SUDAAN to calculate nationally representative estimates using data from the 2005 Health Information National Trends Survey. Our analyses included respondents randomly assigned to items assessing perceptions of risk, worry, and mental representations of lung cancer (n=1765). Perceived risk of developing lung cancer was rated "very high" by 15.2% of current smokers compared to former (1.9%) and never smokers (1.6%); Perceptions of relative risk were highest among of current smokers (34.3%) compared to former (9%) and never smokers (2.2%); Current smokers more frequently reported worry about developing lung cancer (18.4%) than former (3.1%) and never smokers (1.8%). Agreement that there are so many different recommendations about preventing lung cancer that it's hard to know which ones to follow was higher among current smokers (55.2%) than former (41.3%) or never smokers (38.2%). Agreement that everything causes lung cancer was higher among current smokers (26.2%) than former (17.2%) or never smokers (15.4%), while agreement that cancer is most often caused by a person's behavior was higher among never (86.1%) and former smokers (82.6%) than current smokers (75.4%). Reluctance to get checked for lung cancer was higher among current smokers (23.4%) than former (13.3%) and never smokers (9.8%). Worry was independently associated with intentions to quit in a multivariate analysis; respondents who reported less worry had lower intentions to quit (OR=.28). Important differences in smokers' perceptions of risk, worry, and mental representations of lung cancer were identified suggesting that efforts to reach smokers should emphasize the causal role of tobacco use in cancer with clear recommendations for cessation.

Yolanda Garces, MD	
Tobacco Use Intervention Tailored for Radiation Oncology Patients: A pilot study Garces Y, Clark M, Dale L, Schroeder D, Foote R, Croghan I Purpose: To create an effective tobacco use intervention deliverable by a radiation oncologist in collaboration with their nursing staff, utilizing pharmacotherapy, motivational interviewing strategies and tailored for tobacco using radiation oncology patients. Methods: This study was a single arm Phase II pilot study. Adult cancer patients who were either current smokers (any cigarette use in the last 7 days) or recent ex-smokers (last cigarette use > 7 but ≤ 30 days) were eligible. The radiation oncologists were trained to provide a brief intervention during the regular oncology visit. The intervention was a tailored individual behavior change counseling program based on motivational interviewing and consisted of 5 weekly sessions delivered by a trained radiation oncology nurse. Patients also received guidance about tobacco cessation medications and were offered at no cost up to 8 weeks of any FDA approved medication (nicotine replacement therapy and/or varenicline or bupropion). The primary dependent measure was self-reported 7-day point prevalence tobacco abstinence confirmed with expired air carbon monoxide at the 6-month follow-up. Results: Twenty-six patients enrolled between January 2008 and April 2009. The mean age was 56.6 years(range: 40-81) and 58% were male. All patients were receiving curative intent radiotherapy with 54% having tobacco related malignancies(e.g. lung, head and neck, esophageal, pancreatic, cervical, or bladder cancers). The mean number of cigarettes smoked per day was 18.4 with 62% having made 1 to 3 prior serious stop attempts. The Fagerström test for nicotine dependence score was 4.2. The majority received varenicline(n=16, 62%) followed by nicotine patch(n=4) and lozenge(n=1) with 5 patients electing not to have any pharmacotherapy. In this highly addicted population of smokers, at 6 months, 9 patients or 35% (95% CI: 16, 53) self-reported smoking abstinence and eight patients were biochemically confirmed tobacco abstinent. Conclusions: A tailored and individualized tobacco use intervention that utilized motivational interviewing strategies was effective for radiation oncology patients. This intervention warrants further study in larger populations, and in other oncology settings.	

PAPER SESSION ABSTRACTS
Tuesday, March 23, 2010
Epidemiology

Kimberly Porter, MPH	Sara Wobker, MD, MPH
Comparison of two methods for survival analysis in brain tumor patients: preliminary results Porter K, McCarthy B, Vick N, Berbaum M, Davis F Purpose: This study examines a comparison of survival estimates for all primary brain tumors using two methods, the traditional life table method and period analysis, to explore the method which best reflects this population's survivorship experience. Methods: The Central Brain Tumor Registry of the United States obtained nonmalignant data from collaborating state cancer registries and malignant data from SEER state cancer registries. Cases included tumors diagnosed from 1985 to 2005 with the following primary site codes: brain (C71.0-C71.9), other central nervous system (C70.0-C70.9), pituitary gland, craniopharyngeal duct, and pineal gland (C75.1-C75.3) and olfactory tumors of the nasal cavity (C30: 9522-9523). A total of 22,866 cases were available for analysis. Observed survival estimates were generated for 1-, 2-, and 5-years by the traditional life table method and period analysis for all tumors and by histology and age. 95% confidence intervals were computed around the observed survival rates. Analyses were performed using SAS release 9.3 and SEER*Stat version 6.5.2. Results: Using the traditional life table method, observed survival rates for all primary brain tumors combined for 1-, 2-, and 5-years were 66.3%, 55.9%, and 47.1%, respectively. Observed period survival estimates for corresponding years were 71.0%, 60.7%, and 51.4%. For all malignant gliomas, the absolute differences were 2.1, 1.4, and 0.4 at 1, 2, and 5 years, respectively. Among age groups, period survival estimates were higher than the traditional survival estimates for all time periods with the greatest difference among those aged 20-64 years. Conclusion: The differences in these two methods reflect survival gains, which are histology specific, and some of which are quite recent. This comparison of survival estimates as applied to brain tumors, a tumor with a generally poor prognosis, allows an evaluation of whether or not recent therapeutic gains are reaching the general patient population.	Focus on Survivorship: Refining Complete Prevalence Estimates Using Local Cancer Registry Data Wobker, S; Yeh, W; Carpenter, W. Purpose: This study applies NCI's ComPrev software to ten years of North Carolina Central Cancer Registry (NCCCR) data to demonstrate the added value of using complete prevalence (CP) methods to estimate cancer prevalence compared with the prior standard, limited-duration prevalence (LDP). Methods: All cases for years 1995-2004 were obtained from the NCCCR and merged with vital status and date of death from the NC State Center for Health Statistics' vital statistics to form the "case data." Population data for four expanded races and individual ages, originally from the U.S. Census Bureau, were obtained from the SEER program. Case and population data were integrated using SEER*Prep software. SEER*Stat software was used to calculate 10-year LDP based on first primary cancer as of January 1, 2005. ComPrev software was subsequently used to convert LDP into CP for each cancer site, gender, and race combination. CP applies a completeness index based on incidence and survival to adjust for underascertainment of cases due to limited years of surveillance, providing a more accurate estimate of survivor burden. Results: LDP methods estimated 228,457 cancer survivors living in NC as of January 1, 2005. CP methods estimated 371,537 individuals living with cancer, 63% more than LDP estimates. Compared to cancers with typically short survival duration or later age at diagnosis, cancers of greater survival duration or earlier age at diagnosis tended to have greater difference between LDP and CP estimates. Breast, prostate, colorectal, and melanoma comprise 205,747 (55%) of the cancer survivors in NC as estimated by CP methods. Conclusions: The number of cancer survivors in the US is expected to grow from the 2006 estimate of >11 million, and more refined prevalence estimates are needed for survivorship planning. In North Carolina, the commonly used method of LDP based on SEER data underestimates the survivor burden by nearly 40%. Regional, gender-based, and racial differences suggest local programs should understand their community's prevalent cancer population when prioritizing local survivorship services. Future analysis will use MIAMOD methods as a supporting method of estimating CP, and updated case data to generate January 1, 2008 prevalence estimates.

Kavitha Raj, MD	Sung Shim Lani Park, MPH
Epidemiology of Second Primary Colorectal Cancers in Colorectal Cancer Survivors from California Cancer Registry Raj KP, Talor TH, Wray C, Stamos MJ, Zell JA. Background: Patients with history of colorectal cancer (CRC) are considered to be at risk for developing second primary colorectal cancer (SPCRC) than the general population despite surgical resection and potential for cure. However the degree of risk is unclear, and clear predisposing factors for SPCRC development have not been established. We set out to determine this using data from a large population-based California Cancer Registry (CCR). Methods: A retrospective analysis of surgically treated cancer cases involving the colon and rectum from 1999-2005 with a follow-up until January 2008 in CCR was conducted. We excluded those diagnosed with metastatic disease and those whose second cancer is diagnosed within six months of the first diagnosis, to avoid synchronous tumors. Standardized incidence ratio (SIR) with 95% confidence intervals (CI) was used to evaluate risk of second tumors compared to the underlying population, accounting for age at first diagnosis, time at risk, and race/ethnicity. Results: A total of 71,890 patients had CRC involving the colon and 35,117 involving the rectum during this period of time. Among 1,443 SPCRC, 1,077 and 366 occurred if the first primary site was colon and rectum respectively. The SIR for developing a SPCRC was higher in patients whose initial tumor was located in the descending colon 1.6 [95% CI (1.3-2.0)], followed by proximal colon 1.4 [95% CI (1.3-1.6)] and sigmoid colon 1.2 [95% CI (1.0-1.4)] and distal rectum 1.0 [95%CI (0.9-1.2)]. The incidence of SPCRC was higher in females 1.5 [95% CI (1.3-1.6)] and Hispanics 2.0 [95% CI (1.7-2.4)] with colon cancer and noticeably increased in descending colon subsite, in both females 2.3 [95% CI(1.7-3.1)] and Hispanics 3.0 [95% CI (1.5-5.2)] Conclusions: Our results confirm that females and Hispanics are at increased risk of developing a SPCRC. Colorectal tumor subsite location differences exhibited differentially-increased risk of second primary CRC, dependent on gender and ethnicity, reinforcing the fact that CRC is indeed a heterogeneous disease.	Associations of serum insulin-like growth factor (IGF)-1 and IGF binding-protein-3 levels with malignant melanoma Park SL, Setiawan VW, Kanetsky PA, Zhang ZF, Wilkens LR, Kolonel LN, Le Marchand L Studies have reported positive associations between elevated insulin-like growth factor (IGF)-1 levels and cancers of the breast, prostate, colon, and lung. In malignant melanoma, experimental studies demonstrated that IGF-1 has growth and anti-apoptotic effects in early stage cancer cells. However, the associations between malignant melanoma, serum IGF-1 and its primary binding protein, IGF binding-protein-3 (IGFBP-3), have not been investigated. We examined this potential relationship using interview data and sera from 237 cases and 275 controls in a population-based case-control study (1986-1992) of European Americans living on Oahu, Hawaii. Serum IGF-1 and IGFBP-3 concentrations were measured with commercially available ELISA kits (DSL, Webster, TX). Odds ratios (ORs) and 95% confidence intervals (CIs) were estimated by unconditional logistic regression and adjusted for potential confounding variables: age, sex, education, number of blistering sunburns, ability to tan, hair color, caloric intake, BMI, height, smoking status, and drinking status. IGF-1 levels, IGFBP-3 levels, and their molar ratios were categorized as “low” (<median) and “high” (≥median) based on distributions of the control population; the low group was considered the referent. We found an inverse relationship between high IGF-1 concentrations and melanoma (OR=0.62, 95% CI: 0.40, 0.95), but none between melanoma and IGFBP-3 or the IGF-1:IGFBP-3 molar ratio (OR=1.2, 95% CI: 0.82, 1.9; OR=0.72, 95% CI: 0.49, 1.1, respectively). Findings were consistent between genders. When stratified on risk factors, the inverse relationship between IGF-1 and melanoma remained among those who never had a blistering sunburn (OR=0.48, 95% CI: 0.20, 1.2; pinteraction=0.043) and had no personal history of non-melanoma skin cancer (OR=0.45, 95% CI: 0.27, 0.76; pinteraction=0.011). Although tests for interaction were not notable, inverse associations were also found among those who never had a mole removed, had no family history of skin cancer, never smoked, never drank alcohol, and had a BMI >25 kg/m2. In conclusion, serum IGF-1 appears to be inversely associated with malignant melanoma risk. Findings from this study should be corroborated in studies with a larger sample size and with a prospective design.

Yani Lu, PhD	
Oral contraceptive, menopausal hormone therapy use and risk of non-Hodgkin lymphoma in the California Teachers Study Y Lu, J Sullivan-Halley, KD. Henderson, H Ma, L Duan, SS. Wang, J Lacey, ET. Chang, D Deapen, L Bernstein Objective: To evaluate whether use of oral contraceptives (OCs) or menopausal hormonal therapy (MHT) is associated with B-cell non-Hodgkin lymphoma (NHL). Methods: Within the prospective California Teachers Study cohort, women under age 85 with no history of hematopoietic cancer were followed from 1995 through 2007 for diagnosis of B-cell NHL. Overall, 547 women of 116,779 women eligible for analysis of OC use and 402 of 54,758 postmenopausal women eligible for analysis of MHT use developed B-cell NHL. Relative risks (RR) and 95% confidence intervals (CI) were estimated by fitting multivariable Cox proportional hazards models. Results: Women who used OCs had marginally lower risk of B-cell NHL than women who had never used OCs (RR=0.86, 95% CI=0.69-1.06). The reduced risk was most pronounced among women who started OCs before age 25, but did not decrease with increasing duration. No association with MHT was observed when MHT ever users were compared to the never users (RR=1.05, 95% CI=0.83-1.33); this result was consistent across formulations of MHT [unopposed estrogen therapy (ET), combined estrogen and progestin therapy (EPT)]. Among women who had never used MHT, women with a bilateral oophorectomy had three times greater risk than those with natural menopause (RR=3.15, 95% CI=1.62-6.13), whereas there was no association with bilateral oophorectomy among women who had used MHT. In stratified analyses according to hysterectomy and oophrectomy status, ET and EPT did not affect risk for women with natural menopause or those with hysterectomy who had at least part of an ovary remaining. Among women who had a bilateral oophorectomy, ET reduced risk of NHL (RR=0.41, 95% CI=0.21-0.82). Conclusion: These data suggest that ET use decreases the risk of B-cell NHL among women with both ovaries removed, but not among women retaining at least part of an ovary. In other subgroups MHT does not influence risk. Additional study of associations of MHT and OCs with B-cell NHL are warranted.	

PAPER SESSION ABSTRACTS
Tuesday, March 23, 2010
Survivorship

Brian Sprague, PhD	Michelle Janelsins, PhD
Socioeconomic status and survival after an invasive breast cancer diagnosis BL Sprague, R Ramchandani, A Trentham-Dietz, P Newcomb, R Gangnon, PL Remington, JM Hampton Significant progress has been achieved in the United States in improving survival rates following an invasive breast cancer diagnosis. Previous studies have shown, however, that women living in geographic areas with high poverty and low education levels experience poorer survival. However, nearly all of these studies have been restricted to use of community-level data (e.g. US Census) on socioeconomic status (SES), and thus have been limited in their ability to identify individual-level factors associated with the disparity in survival. We examined individual-level SES in relation to breast cancer survival in a population-based cohort of invasive breast cancer survivors, ages 20-69, diagnosed in Wisconsin during 1995-2003 (N=5,865). Information on household income, household size, and education was obtained during telephone interviews conducted shortly after diagnosis. Vital status was determined through December 31, 2006, using automated searches of the National Death Index. A total of 676 deaths (461 from breast cancer) were observed during 41,751 person-years of follow-up. Compared to college graduates, women with no further education beyond high school were more likely to die from breast cancer (Hazard Ratio, HR: 1.39; 95% CI: 1.10, 1.76) and from all causes (HR 1.42; 95% CI: 1.17, 1.73) following their breast cancer diagnosis. Similarly, women with household income less than 2.5 times that of the poverty level were more likely to die from breast cancer (HR 1.46; 95% CI: 1.03, 2.08) and from all causes (HR 1.64; 95% CI: 1.20, 2.24) compared to women with household income at least 5 times the poverty level. Women with lower education and income levels were less likely to have had annual mammograms prior to diagnosis. There was little difference in stage at diagnosis according to education level, but women with low income levels were 2.7 (95% CI: 1.2, 6.2) times more likely than women with high income to be diagnosed with distant-stage breast cancer. Adjustment for these factors attenuated, but did not eliminate, the association between SES and survival after diagnosis. Thus, the disparities in breast cancer survival that exist according to individual-level SES cannot be fully explained by variation in mammography use and stage at diagnosis.	Expression of Inflammatory Molecules Among Breast Cancer Patients Receiving Different Chemotherapies: Implications for Chemobrain Janelsins M, Roscoe J, Mustian K, Palesh O, Peppone L, Sprod L, Morrow G Increased levels of MCP-1, IL-8 and IL-6 are associated with mild cognitive impairment, defined as frequent and irregular bouts of forgetfulness, difficulties with attention and/or difficulties with language—a condition with comparable symptomology reported by cancer patients experiencing chemobrain. High levels of these molecules may compromise neuronal and synaptic integrity, leading to cognitive impairment. Patients receiving doxorubicin-based (with cyclophosphamide, or cyclophosphamide and fluorouracil; AC/CAF) chemotherapy or a combination of cyclophosphamide, methotrexate, and fluorouracil (CMF) chemotherapy report experiencing chemobrain, but MCP-1, IL-8 and IL-6 may be differentially influenced by these regimens. The purpose of this study was to examine changes in expression of these molecules among breast cancer patients (N=54) receiving combinations of AC/CAF or CMF. Changes in MCP-1, IL-8 and IL-6 were assessed at baseline (T1) and after 2 chemotherapy cycles (T2). T-tests were used to compare between group and within group differences on raw means and mean change (T2-T1). IL-6 significantly increased in the AC/CAF group (4.95 pg/mL,SEM=2.31;$p<0.05$), but MCP-1 (42.8 pg/mL;SEM=40.36) and IL-8 (0.25 pg/mL;SEM=1.19) did not. IL-6 (-1.46 pg/mL,SEM=0.94), MCP-1 (-15.8 pg/mL,SEM=49.95) and IL-8 (-0.79 pg/mL,SEM=1.04) all decreased in the CMF group; however, none of these changes were significant. No significant differences in IL-6 (1.06pg/mL, SEM=1.05), MCP-1(73.48 pg/mL, SEM=67.30), or IL-8 (-1.95pg/mL, SEM=3.28) at T1 were observed between AC/CAF and CMF groups. At T2, there was a significant difference in IL-6 (7.72 pg/mL,SEM=3.82;$p\leq0.05$) between AC/CAF and CMF groups, but not in MCP-1 (131.91 pg/mL,SEM=87.09) or IL-8 (5.72 pg/mL,SEM=4.0). A significant change (T2-T1) in IL-6 (6.41 pg/mL,SEM=2.57;$p<0.05$) between AC/CAF and CMF groups was observed. Changes in MCP-1 (58.65 pg/mL,SEM=63.94) and IL-8 (1.08 pg/mL,SEM=1.58) between groups were not significant. These results suggest AC/CAF and CMF chemotherapy regimens elicit distinct inflammatory response patterns in MCP-1, IL-8 and IL-6 suggesting different mechanisms may be responsible for the development of chemobrain. Future research is needed to confirm these findings. Funding:NCI R25CA10618

Jessica Clague, MPH	Karen Basen-Engquist, PhD, MPH
Menopausal Hormone Therapy influences Lung Cancer Survival but not Lung Cancer Risk: Results from the California Teachers Study Clague J, Reynolds P, Chang E, Henderson KD, Ma H, Anton-Culver H and Bernstein L Purpose: Most studies have shown a protective or null effect of postmenopausal hormone therapy (HT) on lung cancer risk, whereas the recent post-hoc analysis of the Women's Health Initiative (WHI) showed that estrogen+progestin (E+P) decreased lung cancer survival. Given the substantial clinical implications, it is vital that the risk and survival associations be validated. Methods: We examined the associations between HT use and lung cancer risk and survival among 60,592 postmenopausal women enrolled in the prospective California Teachers Study cohort. Between 1995 and 2007, 727 women (184 never smokers) were diagnosed with lung cancer; 441 of these died as of December 31, 2007. Age-stratified, multivariable Cox proportional hazards regression was used to calculate hazard ratios (HR). Results: After adjusting for potential confounders, various measures of HT use were not associated with lung cancer risk. However, any HT use (vs. no use) was associated with a statistically significant increase in lung-cancer-specific survival [HR, 0.70; 95% confidence interval (CI), 0.56-0.87]. Among women who only used E, statistically significant increases in lung cancer survival were seen for recent use (HR, 0.59; 95% CI, 0.43-0.80), but not former use; use of only E+P was not associated with survival. Shorter duration of recent E-only use was associated with improved survival (0-5 years of use: HR, 0.29, 95% CI, 0.12-0.68; 5-15 years of use: HR, 0.60, 95% CI, 0.35-1.05; >15 years of use: HR, 0.58, 95% CI, 0.39-0.88) (trend p=0.005). Similarly, women who reported recently using E-only for 0-5 years had a median survival time of 42.1 months versus women who reported 5-15 years of use (31 months), >15 years of use (19.1 months), or no HT use (15.6 months) (log-rank p=0.009). Among former users of HT, a statistically significant 63% (95% CI, 0.16-0.87) decrease in lung-cancer-specific death was observed for E-only use <5 years prior to baseline, but not for E-only use >5 years prior to baseline or E+P-only use. Conclusions: Contrary to the recent finding that lung cancer survival is poorer among women in WHI taking E+P, our results suggest no effect of E+P. By contrast, postmenopausal E-only use, specifically recent use, is associated with increased lung cancer survival.	Test of a weight gain prevention intervention in stage II and III breast cancer patients receiving neoadjuvant chemotherapy Basen-Engquist K, Perkins H, Carmack C, Hughes D, Jovanovic J, Arun B, Murray J Purpose: Weight gain is common in women with breast cancer and is worrisome, as it may affect prognosis and risk of other chronic diseases. This randomized pilot test was conducted to evaluate the feasibility and preliminary effectiveness of a weight gain prevention intervention for breast cancer patients receiving neoadjuvant chemotherapy. Method: Breast cancer patients receiving neoadjuvant chemotherapy were randomized to the weight gain prevention intervention or usual care. The intervention used a size acceptance approach, which emphasized changes in diet (low energy density food) and exercise behavior (resistance training) rather than focusing on weight loss. It was administered in weekly sessions delivered in-person and by telephone. Assessments were done at baseline, mid-chemotherapy, end of chemotherapy, after surgical recovery, after a post-surgical booster intervention, and 6 months after surgery. The data from baseline (BL), mid-chemotherapy (MC), and end of chemotherapy (EC) are presented. Results: 38 participants were randomized to the intervention (n=19) or usual care (n=19). 68% had stage II and 32% had stage III breast cancer. Their mean age was 50.0 (SD=11.0), and 55% were premenopausal. Mean BMI was 29.1 (SD=6.2) and 69% were physically inactive. The sample was diverse with regard to self-reported ethnicity (58% white, 27% African-American, 8% Hispanic, 6% other). Data collected at MC and EC indicated a trend toward greater reduction in BMI in the intervention than the control group (intent to treat analysis, p= 0.10). When the analysis was conducted without the 4 intervention participants who attended less than 60% of the sessions (analyze as treated) the differences were more marked (group difference: 0.5 kg/m2 at MC and 0.9 kg/m2 at EC, p=0.025). Similar results were found for waist circumference and SF-36 physical component score, but no differences were found in the SF-36 mental component score. Conclusions: Based on a preliminary analysis, there was a trend toward improvements in body composition and physical aspects of quality of life from a diet and exercise intervention based on the size acceptance approach. These results indicate this intervention should be tested in a larger randomized controlled trial.

Bernardine Pinto, PhD	
Promoting Exercise Among Colorectal Cancer Survivors Pinto B, Goldstein M, Papandonatos G, Farrell N, and Marcus B Colorectal cancer is the third most common cancer in the U.S. Survivors experience significant persistent symptoms including fatigue, depression and poorer quality of life (QOL) for several years after completing treatment. Exercise adoption has been found to increase fitness, improve mood and reduce fatigue among breast cancer survivors. Less is known about the feasibility of exercise adoption and its effects among patients treated for colorectal cancer. We tested the effects of a home-based exercise program on physical activity, fitness and QOL among patients who had completed primary and adjuvant treatment for colorectal cancer. Forty-six sedentary survivors (mean age=57.3 years, 57% female, mean 2.7 years post-diagnosis, 61% colon cancer, 39% rectal cancer, 48% Stage 2 disease, 83% received chemotherapy) were randomized to a 12-week telephone counseling intervention promoting moderate-intensity exercise adoption (Exercise Group) or contact control (Control Group). The telephone counseling intervention was based on the Transtheoretical Model and Motivational Interviewing components. Assessments of participants' physical activity (7 Day Physical Activity Recall), fitness (treadmill one-mile walk test), QOL (FACT-C) and fatigue (FACT-F) were completed at baseline, 3 and 6 months. At 3 months, regression analyses (controlling for baseline values) showed significant effects for the Exercise Group for physical activity (mean 223.40 minutes/week vs. 98.2 minutes/week, $p<.03$) and fitness (estimated VO2: 26.44 vs. 26.18, $p=.01$; time taken to walk one mile, 20.59 minutes vs. 21.15 minutes, $p<.05$). Improvements in fitness were maintained in the Exercise Group at 24 weeks vs. the Control Group. Data on intervention delivery, safety and participants' evaluations of the program will be presented. A home-based exercise intervention program can produce fitness benefits among colorectal cancer survivors. Supported by the National Cancer Institute.	

Poster Directory

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41	Skinner	Pancreatic cancer, telomeres, case-control study, diabetes
83-T	Song	Hepatocyte growth factor, lung cancer, survival, IHC, biomarker
42-T	Sprague	
75-T	Sprod	Exercise, inflammatory markers, quality of life
76	Sterba	Breast cancer, survivors, post-treatment, social support
43-T	Tarleton	Single nucleotide polymorphisms, family history, liver cancer, stomach cancer, case-control
45	Thompson	
66-T	Tyler	Cancer risk assessment, intellectual and other developmental disabilities
77	Usuki	Cardiac toxicity, survivors, Hodgkin's disease, lymphoma, non-hodgkin lymphoma, adriamycin, mediastinal radiation
29-T	Virk	
22	Wang, Judy	Mammogrpahy screening, cutlural tailoring, Chinese-American women
91-T	Wang, Yi	NER polymorphisms, lung, oropharynx, nasopharynx, larynx, esophagus, bladder, kidney, liver, stomach, smoking, case-control
78	Weaver	Cancer survivors, screening, mammogram, PSA, Pap, worry
84	Wernli	Breast cancer, survivorship, medications, antidepressants, NSAIDS

51	Wilkinson	Mammography, disabilities, health disparities
23	Williams	Medical trust, shared decision making, prostate cancer screening
44-T	Wu	
24	Wunderlich	Shared decision making, relational communication, patient report
52	Yasmeen	Co-morbidities, mammography, breast cancer
25	Zapka	Colorectal screening options, PCP discussion and recommendations
85-T	Zhou	Ovarian cancer, BMI, physical activity

1	2
Adolescent Female Perceptions of Human Papillomavirus Vaccines for the Prevention of Cervical Cancer Bond S., Cartmell K., Ford M., Wahlquist A., Brandt H., Alberg, A. Purpose: Adolescent females are the primary target group for HPV vaccines that protect against most cervical cancers. To facilitate widespread uptake of the HPV vaccines, it is important to know what adolescent females currently understand about this issue. Methods: An ethnically diverse group of adolescent females (n=60) were recruited from public schools and health clinics and surveyed to assess their knowledge and perceptions about HPV, cervical cancer and HPV vaccines. Results: Among the n=60 participants, 79% had heard of HPV vaccines to prevent cervical cancer, 71% knew that HPV causes cervical cancer, and 51% had heard that HPV is passed via sexual contact. Surprisingly, 43% had heard that HPV affects only women. A substantial proportion reported having either already been vaccinated (25%) or reported they were likely to get vaccinated (45%). Common sources for HPV vaccine information were TV, MD/Nurse, school and family/friends. Conclusions: Most of these adolescent females had heard of HPV vaccines, but misinformation about HPV and cervical cancer was widespread and represents barriers to vaccination.	Test of Two Physical Activity Programs on Physical Fitness in Cancer Survivors Carter C., Onicescu G., Cartmell K., Sterba K., Tomsic J., Dunmeyer E., Taylor C., Fox T., Alberg A Purpose of Study: We conducted a nonrandomized trial to test the impact of a novel, team-based physical activity program (dragon boat paddling) versus a group walking program on physical fitness outcomes among cancer survivors. Participants and Methods: One hundred twenty cancer survivors completed either an eight-week paddling team (n=68) or group walking (n=52) intervention. Aerobic fitness and upper and lower body strength capacity were assessed before and after the intervention. Results: Aerobic capacity increased for participants in both programs, with the increase larger and statistically significant for the paddling team (8.4%, $p < 0.0001$) compared to the group walking program (6.1%, $p>0.05$; between-intervention $p>0.05$). Lower body strength increased significantly for participants in both programs ($p<0.0001$), with a larger increase in paddlers compared to walkers (17.2% versus 12.1%; between-intervention $p>0.05$). Paddlers (16.5%) and walkers (7.1%) both demonstrated a statistically significant ($p<0.01$) increase in upper body strength; the increase among paddlers' was significantly greater than walkers' ($p=0.0003$). Conclusions: Participants in both the team-based paddling and group-based walking programs showed considerable improvements in aerobic fitness and strength during a time-limited intervention. The results suggest the dragon boat paddling team may have greater physical fitness benefits, particularly for upper body strength.

3	4
Cancer Prevention Health Services Research: Future Directions Laird, S.L., Zhao, H., Tektiridis, J.H., McKay, C., Chamberlain, R. M. Purpose: Prevention can be a major solution to reducing the burden of cancer, however, very little health services research has evaluated the efficiency/effectiveness of these approaches. In light of this need, the collaborating authors defined the research field of Cancer Prevention Health Services Research (CP-HSR), evaluated current status of CP-HSR and determined the future needs of CP-HSR as a field. The long-term goal is to develop and attract a critical mass of health services researchers and providers to improve cancer prevention through evidence-based policy, regulation, education, and practice. Methods: The University of Texas MD Anderson Cancer Center hosted "Future Directions in Cancer Prevention & Control: Workforce Implications for Training, Practice, & Policy." The goal of the symposium was to engage knowledgeable stakeholders in discussions about cancer prevention and the cancer prevention workforce, and to form recommendations for preventing shortages and strengthening the field. This work is a report of the members of the CP-HSR workgroup of this symposium. Results: The CP-HSR workgroup recommends: 1.) Consensus on the definition of CP-HSR, the diverse range of potential cancer prevention providers/practitioners, and improved integration of these definitions into cancer research and prevention practice, 2.) Increased funding/resources for CP-HSR at all levels, including entry-level researchers and senior investigators, 3.) Expansion of the cancer prevention workforce through education of current providers, and recruitment of new providers by increasing incentives and/or reducing barriers to entering this field, and 4.) Recruitment and promotion of minority scholars to decrease cancer health disparities. The CP-HSR workgroup also recommends promoting awareness of cancer prevention and CP-HSR, increasing education at the patient, professional, and institutional level, encouraging comparative effectiveness research on policies and other interventions, and improving diversity to address the cancer prevention needs of underserved populations. The VA healthcare system is also discussed as a model of cancer prevention. Conclusion: Very few health services researchers focus their work exclusively on CP-HSR.	Preliminary usage patterns of a web-based decision-support aid involving early stage prostate cancer patients Fleisher, L and Kandadai, V The purpose of this study is to more fully understand the ambiguity revolving decision-aid use by describing patterns of usage of a web-based aid involving these types of patients. This cross-sectional, non-randomized pilot study involved early-stage prostate cancer patients (stage I or II), aged 70 years and younger, who have not started treatment. Patients were split into two arms based on their initial physician-specialist consult: 1) Surgical Oncology and 2) Radiation Oncology). Patients were assessed at baseline to obtain demographic data, to establish a baseline decision-making thought process and to determine baseline factors that may influence decision-making behavior. Immediately prior to the physician consult, patients were given the opportunity to use a tracking-capable, web-based decision support aid. The patients were also invited to use the website after their consult on their own time. This analysis reports on the Surgical Oncology arm. A total of 31 patients completed a baseline assessment and used the web-based aid prior to their consult visit. Approximately 52% of the patients were 60-70 years of age, 94% Caucasian, 6% African American and 3% of Hispanic origin. When asked where the patients were in the thought process of making a treatment decision, 3.2% haven't begun to think about the choices, 38.7% were currently considering the options, 45.2% were close to selecting an option and 12.9% already made a decision, but still willing to reconsider. Finally, when asked how the patient made treatment decisions, 51.6% preferred to make the final decision about their treatment after seriously considering their doctor's opinion and 48.4% preferred that responsibility for treatment decisions was shared equally between the patient and doctor. The mean (SD) time spent on the website was 36.3 (9.2) minutes. The cumulative time spent by all the patients was 1125 minutes. Over 50% of the time was spent on section containing video and audio media. These preliminary results suggest a conservative variability regarding decision-making issues and usage patterns of web-based tools. A future analysis involving both arms will be needed to better understand how men navigate these types of tools.

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Do Early Screening Mammography Outcomes <Age 40 Adversely Impact the Timing of Screening Mammography <40 Differentially by Race? Kapp JM, Walker R, Haneuse S, Yankaskas BC PURPOSE: Previous studies suggest 29% of women ages 30-39 report having had a mammogram; this varies by race/ethnicity. Black women have a greater odds than White women of reporting multiple mammograms <40; yet ≥40, Black and Asian women are less likely to receive adequate mammography screening. Could early mammography testing adversely impact future mammography use? Our objective is to determine whether racial/ethnic differences and the outcome of a first mammogram <40 (false positive (FP) or true negative (TN)) may delay the age of the first mammogram ≥40. METHODS: Data were pooled from seven mammography registries of the National Cancer Institute's Breast Cancer Surveillance Consortium (BCSC), a network created to study performance and outcomes in community practice. Using 1996-2006 data, we identified 29,158 women with a screening mammogram between ages 40-45 who also underwent screening mammography for the first time ever at an age <40 in the BCSC data. We used logistic regression to examine the association between race/ethnicity and first mammography outcomes on the odds of delayed mammography after 40 (ages 43-45 compared to 40-42). RESULTS: Overall, 96% of these women's first screens <40 were at ages 35 or later, and 93% of their first screens >40 were at ages 40-42. Regression models adjusted for age at first screen suggest: (1) Hispanic women have an increased odds of waiting to screen until 43-45 compared to White women, regardless of first screening outcome <40; (2) White and Black women whose first screen <40 was a FP have less odds of delaying future screening than those with a TN; and (3) among women with a TN, Black women have an increased odds of waiting to screen until 43-45 relative to White women, with no observed difference between Asian and White women. CONCLUSIONS: Findings suggest a differential impact of early mammography outcomes on future mammography use by race/ethnicity, among the women in our sample with a known first screening mammogram before and after age 40. The concern for harmful effects of over-screening young women drives the need for additional work in this area.	Characteristics of Junior Faculty Start-up Packages in the Field of Cancer Prevention Kapp JM, Graves KD, O'Neill SC, Thompson C, Worthington J, Madlensky L PURPOSE: To survey junior faculty members who work in the field of cancer prevention about their start-up packages at the time of hire. METHODS: An email survey was sent to 453 attendees of the 2009 American Society of Preventive Oncology conference with an active email address; 158 (34.9%) have responded to date. Of those, 40 (25.3%) reported being of rank: Instructor, Assistant Professor/Scientist/Researcher/Clinician, or the equivalent. We calculated frequencies and percents of respondent demographics, start-up package resources and expectations. RESULTS: Overall, 68% of respondents were non-tenured on tenure track, 10% were Instructor rank, 63% were ages 30-39, 80% were female, and 88% were PhD, DrPH, or ScD, with a median of 7 years since their highest degree was conferred (range: 1-16). Respondents predominantly worked in medical schools (55%), Cancer Centers (30%), and Schools/Colleges of Public Health (25%), with a median of 80% time spent on research (range: 35-100%). Overall, 52% reported a starting salary ≥$80,000, 19% reported a salary of $70-79,999; among the 30% with a salary <$70,000, there were no clear demographic or training variables that helped explain this salary differential. Most (76%) believe cancer research funding for population sciences is much less or somewhat less available compared to basic and clinical sciences. Regarding start-up packages, 68% were provided with research funds, 21% were provided time from a student or research assistant, and 46% were provided separate professional development funds. Over half (58%) are expected to teach courses. Over half have bridge funding to cover their salary (53%), 11% don't know. Respondents were expected to cover a median of 70% of their salary after their start up time was completed (range: 0-100). CONCLUSIONS: These findings suggest wide variability in start-up packages across the cancer research field, and highlight that some junior faculty will have to overcome greater challenges, respective to their peers, from the onset of their careers. More work is needed to develop recommendations for minimum start-up requirements for cancer prevention researchers, and evaluate the association between start-up packages and long-term career success.

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Breast Cancer Patients' Trust in Regular Providers, Diagnosing Doctors, and their Treatment Team Kaiser, K.; Rauscher, G.; Jacobs, E.; Strenski, T.; Ferrans, C.; Warnecke, R. Purpose: Interpersonal trust is an important component of the patient-doctor relationship. This study investigated breast cancer patients' trust in their regular providers, their diagnosing physicians, and their cancer treatment team. This study also examined whether having a high degree of trust in one's regular provider confers high levels of trust to the physicians seen for cancer care. Methods: Data come from a sample of White, African American and Hispanic breast cancer patients (N=815), age 30 to 79, with a first primary in situ or invasive breast cancer who reported having a regular healthcare provider. Data were collected in a 90-minute in-person interview in English or Spanish using computer-assisted personal interview (CAPI) procedures. We analyzed three separate measures of trust—trust in regular provider; trust in diagnosing doctors; and trust in cancer treatment team. Responses on all three trust measures were dichotomized so that the highest level of trust became the index characteristic and all other levels were combined for comparison. Logistic regression models assessed the association of personal characteristics with trust and the association of trust in one's regular provider with trust in cancer physicians. Results: Sixty-five percent of patients reported high trust in their regular providers, 84% indicated high trust in their diagnosing doctors, and 83% had high trust in their treatment team. In models that adjusted for patient characteristics, trust in one's regular provider was the strongest predictor of trust in diagnosing and treating providers (p<.001). Conclusions: To our knowledge, this is the first study to examine cancer patients' trust in the physicians seen in the course of cancer detection and treatment. Our results indicate a very high level of trust in cancer care providers among breast cancer patients. This is an important and encouraging finding given that research with other populations has shown an association between trust and patient satisfaction and treatment adherence. Moreover, our findings suggest that trust in cancer physicians can be heightened by cultivating a trusting relationship with a regular healthcare provider.	Health communication campaigns and interventions promoting colon cancer screening: A systematic review King A, Jensen J, Morgan S, Pannell, A Purpose of study: Review published communication interventions and campaigns promoting colon cancer screening to synthesize existing knowledge and identify gaps that need to be considered by future research. Methods: The PubMed and PsycInfo databases were used to collect a complete sample of studies published from 1998 through 2009 (N = 56). Criteria for inclusion were the inclusion of a communication component, including (but not limited to) mass media campaigns, tailored messages, motivational interviewing, and patient-provider communication about screening. Rationale/Results: Evidence for the efficacy and cost-effectiveness of colon cancer screening continues to grow. Accompanying that growth is an increased interest in campaigns and other interventions promoting cancer screening. Only one comprehensive review of the types and effectiveness of interventions promoting colon cancer screening participation is available (Vernon, 1997), and an updated review is needed. The current review included studies that used a variety of communicative means to promote individuals screening participation. Studies were classified by population targeted, theoretical foundations, targeted behaviors, quality of communication messages and methods, effect size, and reported overall success on various outcome measures. Additionally, it was noted whether interventions and campaigns conducted formative research prior to the implementation of the intervention. Conclusions: The success of interventions and campaigns promoting colon cancer screening is mixed. Grounding programs in theoretical frameworks known to promote behavior change seem to somewhat increase the efficacy of programs. Numerous programs reported no formative research. Overall, behavior change was modest. Researchers should consider promoting behaviors that might mediate or moderate individual screening, such as CRC information seeking and increasing patient-provider or spousal interactions about screening. Additional research needs to focus on message quality in campaigns as well as effective methods for tailoring interventions to different populations at risk for colon cancer.

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Mentoring and Training Needs of American Society of Preventive Oncology Members and Attendees of the 2009 Annual Meeting O'Neill, S. C., Graves, K. D., Kapp, J. M., Thompson, C. L., WorthingtonJ. L., Madlensky, L. National initiatives have recently addressed career development and satisfaction in higher education. We have not gathered data on these topics in the context of cancer prevention and control in nearly a decade. On behalf of the American Society of Preventive Oncology (ASPO) Junior Career Development Interest Group, we present preliminary findings of a web-based survey of the 2009 members and meeting registrants of ASPO. From 453 valid email addresses, 158 respondents (35%) have replied to thus far to an emailed request for survey completion. In part, we assessed respondents' demographic and professional characteristics, overall career satisfaction, experiences in the mentor-mentee relationship, and preferences for offering mentorship and career development opportunities through ASPO. Respondents were 63% female and have worked in cancer prevention and control for an average of 16 years, with primary research involvement in epidemiology (63%), screening (43%) and behavioral science (49%). 19% were physicians and 72% held other doctorates. 34% were employed in cancer centers. Most reported being at least somewhat satisfied with their position (74%). 64% served as mentors and 50% served as mentees, with 25% serving in both of these roles. A greater percentage of men served as mentors ($p<.01$), while a greater percentage of women served as mentees ($p<.001$). 44% of respondents had formal mentoring programs at their institutions. These programs often are intended for junior faculty, and among this group, those with these programs at their institution reported higher career satisfaction than those without these programs (4.6 v. 3.7 out of 5, $t=2.46$, $p<.05$). Finally, when presented with options for an ASPO-based mentoring program, the largest number of respondents (40%) favored a mentoring program run primarily through email, supplemented with biannual phone calls and an in-person meeting at the ASPO Annual Meeting. Our results highlight differences in mentoring experiences between men and women, underscore the importance of mentorship to career development and satisfaction, and suggest that ASPO can provide an avenue for encouraging mentor-mentee relationships.	When What You Can't Say Can Hurt You: Impact of Social Constraints on Psychosocial Outcomes Following BRCA1/2 Genetic Testing Graves K, Peshkin B, DeMarco T, Nusbaum R, Valdimarsdottir H, Schwartz M. Purpose: The social environment is posited to impact patients' adjustment to stressful events, and initial evidence suggests that a socially constrained environment is related to greater distress among women who have tested positive for carrying a BRCA1/2 mutation. The purpose of the present study was to extend prior findings by evaluating the role of social constraints and intrusive thoughts among women who received positive, true negative, and uninformative BRCA1/2 genetic test results. Methods: Participants in this study were women with a 10% or greater likelihood of carrying a BRCA mutation, including women both affected and unaffected with breast cancer. Participants (N= 146) were self- or physician-referred to cancer genetic counseling programs. Prior to genetic testing, participants completed baseline interviews assessing demographic, clinical, and psychosocial factors, including social constraints, intrusive thoughts, and general and genetic-testing distress. At 6 months post-testing, participants completed follow-up interviews assessing general- and genetic-testing distress outcomes. We conducted linear regression models to evaluate the impact of social constraints and intrusive thoughts on 6-month distress outcomes, adjusting for genetic test result, age, affected status, number of first degree relatives with breast or ovarian cancer, education, and baseline levels of distress. Results: At 6-months post test, baseline social constraints interacted with baseline intrusive thoughts about genetic test results to predict greater general distress, $F(1,143)=28.46$, $p< .0001$, and greater genetic-testing specific distress, $F(1,135)=11.02$, $p=.001$, including uncertainty associated with genetic test results, $F(1,135)=12.46$, $p=.001$. Conclusions: Consistent with social-cognitive processing theory and prior research evidence, a socially-constrained environment appears predictive of distress following BRCA1/2 testing, regardless of test result. Inhibited expression of cancer concerns may limit cognitive processing of cancer-related intrusive thoughts. Clinically, results highlight the importance of assessing social environmental factors prior to genetic testing to identify and appropriately refer women at risk for distress following BRCA1/2 testing.

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When parents disclose BRCA1/2 test results: Their perceptions of offspring response. Bradbury A, Patrick-Miller L, Egleston B, Sands C, Schmidheiser H, Feigon M, Pawlowski K, Ibe C, Hlubocky FJ, Olopade O, Daly M, Purpose of study: Testing minors for BRCA1/2 mutations, which confer an increased risk of adult onset cancers, is not currently recommended, as risk reduction strategies are not generally initiated before 25YO. However, many minors learn of their parents' genetic test results. Offspring response to this hereditary cancer risk information remains undescribed. Methods: 163 parents who had BRCA1/2 testing completed semi-structured interviews regarding communicating their genetic test results to offspring. Descriptive responses were coded and response proportions summarized. We used multiple regressions fit by GEE to test associations with disclosure, controlling for parent mutation status in each regression. Results: 163 parents (52 BRCA1/2 mutation carriers) reported on 323 offspring 5-25YO at parent genetic testing. 107(66%) parents reported disclosing to at least one offspring. Child age ($p<0.001$) and parent cancer history ($p=0.004$) were positively associated with disclosure. Parents without a BRCA1/2 mutation were more likely to share test result than parents with a mutation ($p = 0.007$). Among parents who disclosed, parents most frequently reported their offspring had a neutral (39%) or relieved (26%) response. Few (9%) reported an initial negative affective response (e.g. anxiety), most frequently when learning of a parent's variant of uncertain significance (14%) or positive result (9%), and infrequently when learning of a true negative (<1%) or indeterminate result (1%). Others (10%) reported concern for self and family, among offspring learning of a parent's positive (12%), variant of uncertain significance (6%) or indeterminate negative (3%) test result. Conclusions: Many parents report sharing BRCA1/2 test results with their offspring. Parent reports suggest that they do not perceive most offspring to experience adverse reactions to this information. Offspring learning of a parent's BRCA1/2 mutation or variant of uncertain significance may be more susceptible to initial negative reactions. Longitudinal assessment of offspring learning of hereditary risk during childhood and adolescence is needed to inform developmentally appropriate education and communication interventions to optimize adaptive offspring and familial responses.	Outreach to Primary Care Providers to Increase Screening for Colorectal Cancer in Appalachian Kentucky Dignan M, Hatcher J, Schoenberg N, Shelton BJ, Tolle C Purpose: The Appalachian region of Kentucky has a higher burden of colorectal cancer than the state and the US. To address this problem, a 5-year, NCI-funded project was developed to provide an intervention to primary health care providers with the objective of increasing screening for colorectal cancer Methods: A total of 65 rural primary care practices were recruited for the project and randomized to intervention or delayed intervention groups. The intervention was provided using academic detailing and included information focusing on screening efficacy, practice management, reimbursement for screening, and patient education. Outcomes were assessed by medical record review at baseline and at 6 months post-intervention. Change from baseline was assessed within both groups separately as well as change between groups using GEE to account for clustering effects within practice. Results: A total of 3906 baseline and 3751 6 mo medical record reviews have been completed. Evidence of recommending colorectal cancer screening was found in 49.6% and 47.4% of these records, respectively. Colonoscopy was the most commonly recommended screening method with results documented in the records (43.8% at baseline; 42.1% at 6 mos), followed by FOBT (18.6% baseline; 16.7% 6 mos). Documentation of FOBT results declined slightly in the intervention practices from 13% to 12.2% but increased in the delayed practices from 8% to 12%. Colonoscopy increased from 28.8% to 33.7% in the intervention practices ($p=0.0371$) and declined slightly from 30.6% to 29.9% in the delayed practices. Provision of screening by FOBT or colonoscopy in compliance with guidelines increased from 29.5% to 31.8% in the intervention practices and changed only slightly 29.2% versus 29.7% in the delayed practices. Conclusions: Colonoscopy is the most commonly used colorectal cancer screening method among this sample of rural primary care practices. The academic detailing intervention was associated with a modest increase in use of this screening method.

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Physician Colorectal Cancer Screening Recommendations, Patients' Prior Screening Adherence, and Screening Use. Elston Lafata J, Cooper G, Divine G, Flocke S, Stange K, Wunderlich T Purpose. The US Preventive Services Task Force advocates for shared decision-making and a 5As framework (assess, advise, agree, assist and arrange) for preventive health recommendations. How physicians and patients discuss colorectal cancer (CRC) screening and whether physicians tailor screening discussions to patients' prior recommendation adherence is unknown. Method. Using office visit audio-recordings, we describe the content of patient-physician CRC screening discussions. Study eligible physicians were salaried, primary care physicians. Eligible patients were aged 50-80, due for CRC screening, and insured at time of health maintenance visit. Using the first 160 (of N=500) audio-recorded visits, we evaluate frequency with which 5As framework is present and whether presence differs between patients who have no prior physician CRC screening recommendation and those non-adherent to prior recommendation, and association of each with 6-month post-visit screening use. Differences are assessed using generalized estimating equation approaches. Results. Patient participants average 60 years old, 66% female, and 70% white, with 30% being non-adherent to a prior screening recommendation. While 97% of visits contained a CRC screening discussion, discussion content varied. 93% contained discussion of how to complete or schedule a screening test (assist), 60% included an assessment of why the patient was due for screening and 24% included assessment of patient's preference for participating in the decision. 31% included invitation for patient to participate in the decision (agree), but only 3% included discussion of results follow up (arrange). Only presence of assessment of reason for screening varied significantly ($p<0.05$) by non-adherent/no prior recommendation status (42% vs. 67%). 6-months post visit, 53% of patients (61% of those previously non-adherent) had been screened and screening use was not significantly associated with presence of 5As, with the exception of assessment. Conclusions. Although most patients due for CRC screening discuss screening with their physician, discussion content varies (albeit generally not by the patient's prior adherence status) and many patients remain unscreened 6-months following receipt of physician recommendation.	Examination of the Relationship between Health Cognitions by Stage of Readiness for Colorectal Cancer Screening Ferrer, R., Hall, K., Portnoy, D., Ling, B., Klein, W. Purpose: This study aims to assign a stage of readiness or action for colorectal cancer (CRC) screening to a nationally representative sample of adults, and to explore the relationships among health cognitions such as perceived risk and worry by stage in order to shed light on the role of these variables in predicting CRC screening. Methods: Data from NCI's Health Information National Trends Survey (HINTS) were used to stage adults over 50 years of age (n = 2324) using a modified version of Precaution Adoption Process Model stage construct. Potential correlates of stage included: Perceived risk of cancer, worry about cancer, and cancer-related beliefs (i.e., it seems like everything causes cancer, there is not much one can do to prevent cancer). Results: The magnitude of the correlation between perceived risk and worry increased as stage progressed (r = .25 to .33), with the highest correlation in the "relapse stage" (r = .40), and a negative correlation in the "decided not to act" stage (r = -.40). The magnitude of the correlation between risk and belief that everything causes cancer also differed by stage, with the highest correlations in the "unaware," "unengaged," "undecided," and "deciding to act" stages (r = .22 to .37), no significant correlations among those who had ever engaged in CRC screening (r = .05 to r = .10), and a negative correlation in the "decided not to act" stage (r = -.67). The correlation between belief that one cannot lower chances of getting cancer and belief that everything causes cancer was low in the pre-decision stages (r = .09 to 21), was highest in the "decided to act" stage (r = .42), declined as stage progressed (r = .22 to.34), and was low again in the relapse stage (r = .05). Discussion: There are meaningful differences in patterns of relationships between health cognitions by stage. Patterns of results were generally as expected, indicating both support for the idea of staging in this context as well as for the role of these psychosocial variables in predicting CRC behavior.

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Patient Preferences and Receipt of Information for Colorectal Cancer Screening Flocke S, Elston Lafata J, Cooper G, Divine G, Stange K, Wunderlich T Background Less than two thirds of Americans eligible for colorectal cancer (CRC) screening receive screening within recommended time intervals. Physician recommendation has been identified as one of the most important determinants of obtaining screening; however, there is great variability in the content of CRC screening discussions. This study examines patient preferences for and physician communication of information about CRC screening during health maintenance visits. Methods 500 health maintenance visits to 75 primary care physicians were observed and audio recorded. Patients completed a pre-visit survey to assess the preference for specific information when making a preventive screening decision. A coding template was applied to the audio recordings to document the types of information provided during CRC screening discussions. Coding and analyses have been completed on the first 160 of the 500 visits. Results The large majority of patients reported that having information about test accuracy (85%), testing alternatives (85%), the pros and cons of testing (83%) and the testing process (78%) is important when making preventive health decisions. Ninety-six percent of visits included a CRC screening discussion, however, CRC screening talk rarely included information that patients expressed that they wanted. Delivery of desired content was poorest for testing pros/cons (6%), accuracy (8%) or testing alternatives (32%). All of those who wanted information about the testing process received that information. Physicians infrequently asked patients if they had questions pertaining to CRC screening (7%) and only half of patients asked a question specific to CRC screening (49%), with the majority (59%) pertaining to screening logistics. Conclusions Audio recordings confirm that discussions of CRC screening seldom include elements of information that patients indicate are valuable when making preventive health decisions and patient questions are not eliciting information to fill the gap. Whether the provision of certain types of information during CRC screening discussions leads to increased adherence to recommended CRC screening warrants further investigation.	Using test attributes to describe patient preferences for colon cancer screening tests Hawley S, Lillie S, Oja-Tebbe N, Elston Lafata J. Objectives. 1) To describe patient-reported values for colorectal cancer (CRC) screening test attributes and, using these values, to categorize the strength of patient preference for colonoscopy vs. FOBT screening; 2) to explore variations in CRC screening test attribute values and modality preferences by gender, age and race. Methods. Patients (N=485) completed a telephone survey prior to a scheduled appointment at an internal or family medicine practice in Southeast Michigan. Patients were insured, aged 50-80, and due for CRC screening. Survey respondents indicated how important various CRC screening test attributes were to them (e.g., test accuracy, complication risk, required preparation). Responses were used to categorize patients into screening modality preference groups: strong colonoscopy, weak colonoscopy, strong FOBT, weak FOBT, or an unclear preference. Differences in attribute importance and preference groups by age, gender and race were evaluated using chi square tests. Results. Test accuracy was the attribute most often reported to be most important (46%), followed by risk of complications (15%). Based on all attribute assessments, the most common screening modality preference was a weak preference for colonoscopy (39%). Other preference categorizations were less common: 7.8% strong colonoscopy, 10.5% strong FOBT, and 20% weak FOBT. Almost a quarter of participants' responses were not consistent with a clear preference for either screening modality (23%). There were no significant differences in reported attribute importance or modality preference categorization by gender, race, or age, with the exception of those who weakly prefer FOBT screening, where larger proportions are females (p=0.0448). Conclusions. Based on the test attributes patients indicated were most important, most patients did not have a strong preference for either colonoscopy or FOBT. The most common categorization was a weak preference for colonoscopy, but many patients could not be linked to a preferred test using their most important attributes. How to make a CRC screening recommendation that is consistent with patients' underlying preferences when those preferences do not clearly lean towards one screening modality presents a clinical challenge warranting further study.

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Primary care patients' use of an Internet-based prostate cancer screening decision aid Kassan, E., Williams, R., Kelly S, Penek, S., Barry, S., Fishman, M., Cole, C., Miller, E., Taylor, K. There are currently no universally accepted recommendations for men regarding prostate cancer screening (PCS). Most medical organizations agree that men should engage in shared and/or informed decision making. Decision aids can help men make these decisions. Using tracking software and self-report, we examined men's use of an interactive, web-based decision aid for PCS within an ongoing randomized trial. Method:Participants (aged 45-70) were primary care patients at two academic hospitals and a community based practice. Mean age was 57 yrs (SD=7), 36% were AA, and 91% reported having Internet access. Following the baseline telephone interview, men were randomly assigned to the web (N=395), print (N=403) or usual care (N=439) arm and completed a subsequent interview 1-2 months later. The website covers the continuum from PCS to treatment, and includes an interactive values clarification tool (VCT), 8 video testimonials, and animated features. Prior to viewing the website, participants indicated whether they were 'pro' or 'con' screening. Using tracking software, we assessed the number of log-ins, time spent on website, use of the VCT, and use of video testimonials. Results: Within 2 mos of randomization, 190/395 (48%) logged on and completed the second interview. Compared to non-users, users were more likely to be white, married, employed, have a higher income, higher education, fewer comorbidities, and a cancer history (all ps <.05). Users were largely 'pro' screening (84%), and rated the website as very/extremely helpful (83%) and the right length (60%). Based on the tracking software, the median number of logins was 2, 85% used the VCT, 95% used the video testimonials, and median time spent on the website was 35 min (range=0.5-119), with the most time spent in the Screening section (median=14 min). Comparing self-report to the tracking software, men overestimated their likelihood of logging on (p=.000), time spent using the website (p=.000) as well as use of the VCT (p=.024). Conclusions: These findings indicate both the feasibility and the limitations of conducting web-based PCS education. Additional data will be presented on men's use of specific website sections, stratified by demographic variables and baseline screening preference.	A Culturally-Tailored Intervention Aimed at Improving Prostate Cancer Knowledge and Screening in African American Men Patel K, Ukoli F, Beard K, Beech D, Liu J, Hargreaves M Objective: To assess the impact of a culturally-tailored educational intervention on prostate cancer screening behavior and knowledge in African American men. Methods: Study participants were one hundred and four African-American male residents of Nashville/Davidson County who were 45 years and older and who had not been screened for prostate cancer (PCa) with a prostate specific antigen (PSA) test and/or a digital rectal exam (DRE) within the past year. Participants were primarily low-income African Americans recruited at Matthew Walker Community Health Center or from the Nashville community at-large. The intervention was conducted by trained lay community educators. The intervention consisted of an educational brochure developed in collaboration with the community. Lay community educators used this brochure to educate participants about prostate cancer. Summary of Results: The main outcomes assessed for this study included PCa screening rate, PCa knowledge, barriers to screenings, family history of PCa, and sociodemographic variables. A total of 58% of African American men got screened for prostate cancer with a PSA test at the 3-month post-intervention assessment. Participants who reported getting screened at post-intervention were significantly more likely to have more than a high school education (P<.05), an annual household income ≥ $25K (p<.05), and less likely to have had a relative who had any other cancer except prostate cancer (p<.05). On average, prostate cancer knowledge scores increased from pre-intervention to post-intervention only for participants who had been screened (F (1, 79) = 5.52, p<.05). In addition, the total barriers to screening scores decreased at post-intervention only for participants who had been screened (F (1, 79) = 14.30, p<.001). Compared with participants who had not been screened, those who had been screened for PCa had a greater level of informed decision making about screening (p<.05). Statement of Conclusions: This culturally sensitive educational intervention was effective in increasing prostate cancer knowledge and screening behaviors in a group that is at elevated risk for prostate cancer incidence and mortality.

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Clinical Utility of Family History for Cancer Screening and Referral: The Family Healthware™ Impact Trial (FHITr) Rubinstein W, O'Neill S, Beaumont J, Acheson L, Ruffin M, Wang C for the FHITr group	First Report: Screening an Asymptomatic Population for Cancer - The Yield of an Integrated Cancer Prevention Center Sella T, Itzkowitz E, Miller U, Gur E, Inbar R, Boursi B, Mashiach Y, Blashar A, Sperber F, Kleiman S, Yafo A, Naumov I, Kazanov D, Kraus S, Galazan L, Rozen M, Elran H, Liberman E, Moshkowitz M, Arber N.
Purpose: To determine whether patients who record their family health history and receive a familial risk assessment and tailored prevention messages are more likely to adhere to risk-appropriate cancer screening than patients who do not undergo family history assessment and receive only generic prevention messages. Methods: Practice based cluster-randomized design and familial risk stratification of healthy adults aged 35–65 years for breast, colon and ovarian cancer using Family Healthware™, a self-administered, internet-based tool. Intervention and control group participants completed identical baseline and 6-month follow-up surveys. Family Healthware™ was administered after the baseline survey to the intervention group. Controls were provided access to the tool after the 6 month follow-up survey to enable comparison of risk strata. Subjects who were adherent with screening at baseline were excluded from screening change analyses. Results: 3283 analyzable participants who completed all study tools were recruited from 41 primary care practices. Subjects were mostly Caucasian (91%), female (70%), married (76%), insured (97%), at a high socioeconomic level, with a mean age of 50.6 years. 34% had a strong or moderate risk for at least 1 of the 3 cancers. At baseline, cancer screening adherence was high: 75% for mammography, 77% for colon cancer and 94% for clinical breast exam. Overall adherence improved, however, neither breast nor colon cancer screening adherence differentially improved for the overall intervention vs. control groups, nor within comparable risk strata. Referral visits to medical professionals or genetic specialists did not differ between groups. Conclusions: Family Healthware™ delineated a substantial burden of cancer risks in an adult primary care population. Clinical utility of Family Healthware™ may have been limited by the high baseline screening adherence, limited follow up time, weak messaging, or a combination thereof. It may be necessary to devise more active interventions, improve physicians' engagement, integrate recommendations with clinical decision support systems, and include non-familial risk factors to achieve the full potential of computerized risk assessment.	Background: Cancer is a leading cause of morbidity and mortality worldwide. The best treatment modality is by prevention and early detection. Objectives: To evaluate the outcome of screening an asymptomatic population for the presence of pre-malignant and malignant neoplastic lesions. Methods: Eight-hundred consecutive adults, aged 19-80 years, were screened for prevention and/or early detection of 11 common cancers by routine standard screening tests, based on standard screening guidelines. Routine blood tests included complete blood count, cholesterol, triglycerides, and high serum (HS)-C-reactive protein (CRP). Colonoscopy was the preferred screening modality for colorectal cancer (CRC) starting at the age of 40. Low dose chest CT was offered to a selected high risk group. Additional tests were performed as indicated by physical examination and personal and familial risk factors. Excluding colonoscopy, all tests were performed on the same day within 2-4 hours. Subjects were tested for the APC 1307K and E1317Q variants as well as the A57V variant of the CD24 gene. Results: Malignant neoplasms were identified in 23 (2.9%) otherwise healthy subjects. Tumors of the gastrointestinal tract (7) followed by breast (7) skin (4) and urogenital tract (4) were most frequently detected. Premalignant lesions were found in 9.4% subjects. The prevalence of the APC I1307K and E1317Q variants was 5.5% and 1.2% respectively. CD24 A57V variant heterozigosity and homozigosity were identified in 44.5% and 7.0% of tested subjects (n=447). Advanced age (>50yr) and a family history of malignancy were associated with increased risk for cancer with an OR of 7.3 (95% CI 2.2-24.9) and 2.3 (95% CI 1.0-5.2), respectively. Of APC I1307K carriers, 9.5% were diagnosed with malignancy ($p<0.05$, OR 3.93 [95% CI 1.28-12.14]). In addition, HS-CRP level and harboring more than one genetic variant tended to be associated with an elevated cancer risk. Conclusions: Screening asymptomatic subjects, in the framework of an integrated cancer prevention center is feasible and doable. It identifies a significant number of pre-malignant and malignant neoplasms. Age and family history are important risk factors. Genetic polymorphisms in the APC and CD24 genes can further identify high risk individuals.

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Patient and Physician Prioritization of Cancer Screening and Other Preventive Services during Health Maintenance Visits Shires, D. Vashi, R. Stange, K. Divine, G. Cooper, G. Flocke, S. Wunderlich, T. Elston Lafata, J. Purpose. Limited time and competing demands force primary care physicians and patients to prioritize among evidence-based preventive health services. We describe how preventive services are prioritized relative to established cost-effectiveness (CE) rankings during health maintenance visits. Method. Medical claims data, a pre-visit survey, and transcripts of audio-recorded office visits were used to identify which screening, counseling, and immunization services patients were due for at the time of visit. Eligible physicians are internists or family medicine physicians practicing in a salaried medical group. Eligible patients are insured, ages 50-80, and due for colorectal cancer screening. Audio-recordings of the first 101 of 500 visits were evaluated for the frequency of preventive service discussions, who initiated discussions, and physician recommendations. Rates are evaluated overall and by CE rankings that range from 1 (least) to 5 (most) cost effective (Maciosek et al, 2006). Results. Patient participants are on average aged 60 years, 66% female and 70% white. Among evidence-based services, breast, cervical, and colorectal cancer screening were most likely to be discussed (95-99%) among eligible patients, while aspirin use (CE rank =5) was least likely to be discussed (26%). Most discussions were physician initiated, but patients were relatively more likely to raise obesity, osteoporosis, and mental health (30-45%), each of which has a relatively low CE ranking (≤3). Topics most often raised by physicians included those with lower and higher CE rank. Physicians most often recommended colorectal cancer screening (95%) and hypertension screening (94%) to patients due for service. Physicians were least likely to counsel for alcohol (0%) (CE rank =4). Conclusion. Physicians and patients often discuss cancer and other cost-effective preventive services during visits. Some of the least cost-effective topics discussed are more likely to be raised by patients and are less likely to result in physician recommendation. Physicians seem to prioritize cancer and other screening services over counseling services, missing opportunities to deliver counseling for aspirin use and problem drinking more often than missing opportunities to recommend cancer screening.	Increasing Mammography Use Among Chinese Immigrant Women: Is Cultural Tailoring the Answer? Wang JH, Schwartz MD, Liang WL, and Mandelblatt JS Purpose: To examine the preliminary efficacy of a culturally tailored educational video in promoting mammography use among Chinese-American women (age ≥40) who had never or had not been screened in the past 12 months. Methods: 546 Chinese immigrant women were randomized to three groups: 1) viewed a culturally tailored video; 2) viewed a generic video; and 3) read a fact sheet (control group). Videos, guided by the Health Belief Model, were presented in “soap opera” format, ending with physician recommendations. The cultural video particularly addressed Chinese culturally-based beliefs about cancer and healthcare and was made in Chinese language. In contrast, the multiethnic generic video targeted common health beliefs about mammography, not specific to Chinese women, and was made in English with Chinese dubs. Our end outcome was self-reported mammography use six months post-intervention. Changes in key screening barriers (i.e., knowledge, cultural views, and health beliefs) pre- and post-intervention were evaluated using T-tests. Participants were successfully randomized. Thus, chi-squared tests were used to examine group differences in screening outcomes. Results: The cultural video led to a significant 12 percentage point increase in mammography use relative to the control arm (41% vs. 29%, p=.02; baseline screening rate=0). However, the increased screening rate of the generic video group (38%) did not significantly differ from that of the control group. The cultural video also significantly increased mammography use among low-acculturated and never screened women relative to the control arm (39% vs. 26%, p=.03 and 29% vs. 15% p=.056, respectively); the generic video did not. Both videos had a greater impact on improving women’s knowledge, cultural, and attitudinal barriers to mammography (p<.0001) than the control arm. The cultural video group had a significant reduction in Eastern cultural views of healthcare relative to the control group (p=.01). Conclusions: A culturally tailored video program is relatively efficacious in increasing mammography use over a generic intervention program for Chinese women, suggesting that cultural tailoring of intervention programs is needed to promote the low screening rates of this growing immigrant population.

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Shared decision making preferences and medical trust among men participating in free prostate cancer screening programs Williams, R., Tuong, W., Luta, G., Davis, K., Lynch, J., Ahaghotu, C., Taylor, K. Purpose of Study: Patients and practitioners are encouraged to engage in shared decision making (SDM) for prostate cancer screening (PCS). Patients' trust in their providers may contribute to their willingness to engage in SDM. We sought to determine the relationship between patients' level of medical trust and their report of SDM preferences for PCS. Methods: Study participants were African American (AA; (n=330)) and White (n=152) men aged 40-70 who had registered to undergo free PCS. The baseline interview assessed demographic and medical characteristics, screening history, PCS knowledge, SDM, and medical trust, defined as trust in one's doctor and trust in the healthcare system. Results: The mean age was 55 yrs (SD=8.0), 71% were employed, 75% had health insurance, 75% had been screened for prostate cancer in their lifetime, and 36% had been screened in the past year. Half of the sample (53%) preferred to make their own decisions regarding PCS (i.e., to have an independent role), one-third (37%) wanted to share the decision with their doctor, and 11% wanted their doctor to decide (i.e., passive role). Using a multinomial logistic regression model to predict the 3-level outcome of SDM preference, we found that compared to an independent role, preference for a passive role was positively associated with higher trust (OR=3.13, 95% CI: 1.43 - 6.88), and negatively associated with education (OR=.38, 95% CI: .18 - .82) and with a history of PCS (OR=.45, 95% CI: .23 - .87). Preference for an independent vs. a shared role was not significantly associated with any of the demographic or decisional variables. Additionally, no significant differences were detected among the race groups in the multinomial model. Conclusions: Medical trust was significantly associated with SDM preferences among men registered for PCS. Physicians should be aware that men with less medical trust, higher education, and a screening history may be more likely to prefer to make their own screening decisions versus wanting their doctor to decide.	What Makes a Decision Shared? Patient and Observer Perceptions Wunderlich T, Elston Lafata J, Cooper G, Divine G, Flocke S, Oja-Tebbe N, Stange K Introduction: Previous studies find discrepancies between observer- and patient-rated shared decision making (SDM). What leads patients to report decisions as shared is unknown. We evaluate the association of observer- and patient-reported SDM use for colorectal cancer (CRC) screening with patient reports of relational communication. Methods: Study eligible physicians (N=45) are internists or family medicine physicians practicing in a salaried medical group in southeast Michigan. Eligible patients are insured, aged 50-80 and due for CRC screening. Patients scheduling a preventive visit with a participating physician are approached for enrollment. Enrollment includes completion of pre-visit interview, office visit audio-recording, and post-visit survey. Latter includes patient report of SDM and items from Relational Communication Scale (RCS) (Burgoon and Hale, 1987). 160 visits that include discussion of CRC screening were observer-rated for elements of SDM (i.e., involvement, information sharing, preferences and agreement) (Charles et al, 1999). Association of patient- and observer-rated SDM with each other and with patient-reported relational communication are evaluated using generalized estimating equation approaches. Results: Although 38% of patients reported SDM, none of the CRC screening discussions included all four elements of SDM per observer ratings. Patient reports of SDM were significantly associated with responses to questions from the following subscales of the RCS: 1 item from "Immediacy/Affect," 3 items from "Receptivity/Trust" and 3 items from "Composure" (all $p<0.05$). Three additional items from the "Receptivity/Trust" subscale were marginally significant. Significant associations were found for 3 of the same RCS items with observer ratings ($p<0.05$) as well as an additional item from the "Dominance" subscale ($p<0.05$). Conclusion: Patients who report positive interpersonal relationships with their physician are more likely to report that decisions are shared. Observer-ratings of SDM capture both discussion content and to some extent rapport. Future studies are needed to understand whether patient-reported, observer-reported or both-reported SDM are associated with improved patient outcomes.

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Primary Care Physicians' Colorectal Cancer Screening Discussion and Recommendation Patterns Zapka J, Klabunde C, Arora N, Yuan G, Kobrin S, Lee Smith J. Purpose: Primary care clinician recommendation and action are pivotal to colorectal cancer (CRC) screening performance. Guidelines recommend discussion between clinicians and patients about test options and their potential benefits and harms to inform decisions. The purpose of this paper was to examine physicians' discussion and recommendation patterns. Methods: In 2009, we analyzed data from 1266 physicians responding to the 2006-2007 National Survey of Primary Care Physicians' Recommendations and Practices for Breast, Cervical, Colorectal, and Lung Cancer Screening. Descriptive statistics were used to examine physicians' reports of discussion about and recommendations for CRC screening. Regression modeling assessed the relationship of discussion and recommendation practices with physician and practice characteristics and physician reports of influence of patient preferences and screening barriers. Results: Forty-six percent of respondents usually discuss more than one testing option; the vast majority of these discuss FOBT and colonoscopy (49%) or FOBT, sigmoidoscopy and colonoscopy (32%). There is virtually no discussion of all options as recommended in national guidelines. Of the physicians who discuss more than one option, a majority report they usually recommend one or more tests, most commonly colonoscopy alone (43%) and FOBT and colonoscopy (43%). Several personal (specialty), practice (reminders), and patient characteristics (preference to have MD decide), along with screening barriers (specialist availability), are independently related to discussion patterns and/or recommendations. Conclusions: Most U.S. primary care physicians do not routinely discuss with their patients the full menu of CRC screening options recommended in guidelines. Given the numerous factors influencing screening decisions, multiple interventions aimed at multiple levels are essential to promote more informed discussions and recommendations.	Interplay of Perceived Risk and Cancer Worry as Influences on Colorectal Cancer Screening MT Kiviniemi Compliance with colorectal cancer screening is significantly lower than desired. Perceived susceptibility to cancer influences screening decisions. Perceived susceptibility can be conceptualized as both cognitively-based risk (e.g., beliefs about chances of suffering from cancer) and affectively-based feelings (e.g., cancer worry). The two are separate and distinct constructs and both influence screening. However, very little work has examined the interplay of the two constructs. There are plausible hypotheses for both moderated and mediated relations. The nature of the relation has implications for both our understanding of the mechanisms by which perceived risk influences behavior and for development of intervention to increases screening. Analyses were conducted using the 2003 NCI Health Information National Trends Survey (HINTS). Respondents reported on both their absolute and relative chances of suffering from colorectal cancer, reported how frequently they worried about colorectal cancer, and reported on engagement in colonoscopy, sigmoidoscopy, and FOBT. The relation between risk, worry, and screening, moderator effects, and mediated effects were examined in a series of logistic regression analyses using weighted analysis techniques to account for the sampling frame and non-response patterns. At the univariate level, absolute risk, comparative risk, and worry all predicted engagement in both colonoscopy and sigmoidoscopy screening. No risk component predicted FOBT screening. The relation of both absolute and comparative risk to colonoscopy screening was mediated by degree of worry about colorectal cancer. For comparative but not absolute risk, the relation to sigmoidoscopy screening was also mediated by perceived worry. There was no evidence for moderation for any combination of risk variables. The relation of perceived risk, worry, and screening behavior is more complex than the independent, two main effect relation typically conceptualized and tested in models of screening decision making. The mediational interplay of risk and worry has implications for both how we understand and conceptualize people's decisions to undergo screening for colorectal cancer and for developing intervention strategies to improve screening compliance.

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Up-regulation of endothelin-2 as a common and early event in localized clear cell renal cell carcinoma Parker A, Bot B, LeGrand S, Eckel-Passow J Purpose: Despite incidence rates that have been rising for decades, the molecular underpinnings that support the development of clear cell renal cell carcinoma (ccRCC) remain unclear. Herein, we evaluate expression levels of the hypoxia-induced autocrine survival factor endothelin-2 (EDN2) in patient-matched ccRCC and normal kidney samples. Methods: We identified 169 patients who underwent nephrectomy for histologically confirmed, localized ccRCC at our institution from 2000 to 2003 and had fresh-frozen tumor and normal kidney samples available. After mRNA was extracted from microdissected tissue, we conducted real time PCR to determine expression levels of EDN2. We normalized the expression data using four control genes and then fit linear mixed models to evaluate differential expression between tumor and normal samples. In addition, we explored potential interactions with relevant clinicopathologic characteristics including tumor stage and grade. Results: Of the 161 patients analyzed, 65% were male, 58% were stage pT1, and 43% were nuclear grade 1 or 2. Overall, EDN2 expression was higher in tumor samples compared to paired normal samples with an average fold change (FC) of 2.0 (p-value<0.0001). This over-expression in tumor versus normal tissue was apparent in early stage (pT1) tumors but not later stage (pT2, pT3) tumors (FC of 2.9 v. 1.1 respectively; interaction p-value=0.001). Similarly, over-expression was more pronounced in low grade (1, 2) tumors compared to high grade (3, 4) tumors (FC of 3.5 v. 1.3 respectively; interaction p-value=0.0002). Conclusions: While independent validation is required, our patient-based data suggest that up-regulation of EDN2 is a common and early event in localized ccRCC. If confirmed in future studies, EDN2 could represent a target for the development of novel chemopreventive or neo-adjuvant therapeutics for ccRCC.	Patient Decision Making: Uptake Rates and Associated Factors Ropka M, Keim J, Philbrick J PURPOSE: This systematic review addressed four questions: (1) What uptake rates for real and hypothetical decisions about breast cancer (BC) chemoprevention (CP) have been reported? (2) How have real and hypothetical decision rates been measured? (3) What factors are associated with uptake rates? (4) Do issues of study methodology bias reported uptake rates? METHODS: Using MEDLINE, CINAHL, and PSYCHINFO, we identified 12 studies that addressed real or hypothetical decisions about BC CP; were published in 1995 or later; were peer-reviewed primary clinical studies; and reported uptake rates of BC CP. RESULTS: Of the 12 studies, 4 reported real decision rates and 8 hypothetical decisions rates (none reported both for same group). Mean hypothetical decision uptake was higher (27.1%; range 11.1-60.0%) than real (18.4%; range 4.7-51.2%), but the difference was not significant and ranges were similar. The real uptake rate was skewed by one study reporting a high rate; the mean of the remaining three real decision studies was only 8%. Each study of hypothetical decision uptake measured uptake differently. Most (8/12) studies evaluated variables for univariate or multivariate correlation with uptake, but all correlates were of modest magnitude (relative risk rarely >2.0). The most consistent positive correlation with uptake was “perceived vulnerability” to breast cancer (5 studies) and most consistent negative correlation was side effects (2 studies). The mean uptake rate for 9 studies enrolling high risk BC subjects was 22.4 compared to 29.6% in the 3 general population risk studies. From the quality reviews, methodologic concerns included use of convenience samples, sole use of correlational/descriptive designs, and the many different instruments used to ascertain hypothetical decisions. CONCLUSIONS: As expected for a preference-sensitive decision, variation in reported BC CP uptake rates is high. However, most studies reported low real and hypothetical uptake rates. Although few factors strongly correlated with uptake rates, perceived vulnerability to BC and concern for side effects are important issues. Research is needed that uses reproducible sampling methods and examines CP decision support strategies that lead to “quality” decisions.

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Effects of a high-fat diet on adiposity and metastasis suppressor gene expression (KISS1) in female C57BL/6 mice Virk M., Beck B., Vaidya K., Welch D., and Nagy T. Obesity is a growing epidemic. Widespread consumption of calorie-rich diets combined with a sedentary lifestyle play critical roles in excess weight gain. Obesity is a risk factor for many diseases including cancer, and cancer mortality is increased in obese individuals, suggesting that metastatic disease is increased with obesity. This study examined the effect of a 9-week high-fat diet (60% fat Kcal) on the expression of the metastases suppressor gene KISS-1 in female C57BL/6J mice. We hypothesized that a high-fat diet would increase weight gain compared to animals on a low-fat diet (10% fat Kcal), and even in the absence of any cancer the weight gain would result in decreased expression of the metastasis suppressor gene KISS-1. A total of 16 mice (9 weeks old) were randomly assigned to either high- or low- fat diet and fed ad libitum for 9 weeks. Compared to the low-fat controls, the high-fat treated animals had significantly greater caloric intake (704.9±14.02Kcal vs. 605.5±9.72Kcal; $p<0.0001$) and were significantly heavier (27.09±1.17g vs. 20.58±0.51g; $p<0.0001$). This excess weight gain is largely due to a significant increase in absolute fat mass (9.16±0.94g vs. 4.35±0.28g; $p<0.0001$), along with a smaller, but significant increase in lean mass (16.69±0.29g vs. 15.09±0.38g; $p<0.001$). We did not observe any significant effect on the expression (measured by RT-PCR) of metastases suppressor geneKISS1 or its receptor GPR54 in hypothalamic or lung tissues. Future studies may need to consider a long-term dietary treatment in both cancer-free and cancer-bearing animals of different strains to observe any diet induced obesity related changes in metastases suppressor gene expression. This work was supported by R25 CA047888, P30 DK56336, P60 DK079626, R01 CA134981 and P30 CA013148.	Adherence to Recommendations for Lifestyle Behaviors in Long-Term Survivors of Genetic Testing for BRCA1 and BRCA2 Mutations McDonald J, Stopfer J, Domchek S, Collier A, Weathers B, Halbert C Background: In addition to considering risk management options such as prophylactic surgery, recommendations for fruit and vegetable intake and physical activity may be reviewed during genetic counseling and testing. However, limited empirical data are available on lifestyle behaviors among women following BRCA1/2 counseling and testing. Methods: We conducted a cross-sectional study of adherence to recommendations for fruit and vegetable intake and physical activity among 170 long-term survivors of genetic counseling and testing for BRCA1/2 mutations. All participants were female and included 69 mutation carriers and 101 women who received negative or ambiguous results. Adherence to recommendations for fruit and vegetable intake and physical activity was determined by self-report using items from the HINTS. Women who reported all three types of behaviors (e.g., eating the recommended servings of fruit and vegetables and being physically active) during the past month were categorized as being adherent. Those who did not report all three behaviors were categorized as being non-adherent. Results: Overall, 62% of women were adherent to recommendations for lifestyle behaviors. Factors associated with adherence in bivariate analyses included receiving negative or ambiguous BRCA1/2 test results (Chi Square=5.99, p=0.01), having a greater amount of formal education (Chi Square=4.65, p=0.03), and lower levels of genetic testing specific distress (t=2.31, p=0.01). In multivariate regression analyses, greater education (OR=2.83, 95% CI=1.12, 7.18, p=0.03) and lower distress (OR=0.70, 1.01, 2.05, p=0.04) had significant independent associations with adherence. Conclusions: The majority of women are adherent to recommendations for lifestyle behaviors following genetic counseling and testing for BRCA1/2 mutations; however, distress may be a barrier to consuming the recommended amounts of fruits and vegetables and being physically active.

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Probing of the NCI SEER Database to Assess Diagnostic Consistency in Ovarian Cancer Staging and Grading Apostle, K., Henson, D., Schwartz, A., Patierno, S., Grimley, P. Purpose of Study: Stage and grade are significant indicators of prognosis in serous ovarian cancer (SOC), but a preliminary review of SEER data indicated a lack of stage or grade information in many cases. In an effort to determine whether this might reflect any regional bias in diagnostic practice, findings were compared for major SEER registries on East and West coasts. Study Methods: Total SEER data for the years 2000-2006, representing 26% of the US population, were obtained from SEER Registry 17. SOC cases were stratified by region (CA Urban, NJ-CT, CA Ex-Urban), stage (early vs. late), grade (low vs. high), and age at diagnosis: 25-44 years (n=979), 45-64 years (n=5513), and 65-84 years (n=4848). Incidence rates and 5-year survival rates were statistically compared overall and by major registry. Results: Overall, 12% of cases had no recorded stage, 24% had no recorded grade, and 16% had neither a stage nor grade recorded. The relative rate ratios unrecorded/recorded for stage or grade for the total age range (25-84) showed no significant regional variation. A parallel analysis of ovarian cancer-specific cumulative survival (5-year, Kaplan-Meier) suggested that the staged but ungraded cases were predominantly of low grade, whereas the grade but unstaged cases were predominantly of late stage. These findings, however, were not consistent amongst all age groups; and there were some significant variations in rate ratios of low/high grade and early/late stage between the eastern region and two western regions. Conclusion: The SEER program provided evidence of a general consistency in the overall diagnostic practice of recording ovarian cancer stage and grade. Comparisons of 5-year survival data suggested that the most unstaged cases were of late stage, and most ungraded cases were of low grade. Conversely, analysis of individual age ranges showed some difference which would indicate a random pattern of categorization. We can infer that a more complete description of stage and grade in all cases of SOC would be optimal to improve the accuracy of outcome evaluations.	Long-Term Prognostic Role of Functional Limitations among Women with Breast Cancer Braithwaite D, Satariano WA, Sternfeld B, Hiatt RA, Ganz PA, Kerlikowske K, Moore DH, Slattery ML, Tammemagi M, Castillo A, Melisko M, Esserman L, Weltzien EK, Caan BJ. Background: Functional limitations have been associated with poor survival among women with breast cancer within the first year of diagnosis. The long-term prognostic role of these difficulties in the completion of tasks of everyday life remains unknown. Methods: We studied a cohort of 2270 women diagnosed with breast cancer between 1997 and 2000, who provided information on functional limitations of body functions involving endurance, strength, muscular range of motion and small muscle dexterity at enrollment. The median follow up was 8.7 years (range 0-10 years). We investigated the association of functional limitations with survival from all causes, breast cancer and competing (non-breast cancer) causes in delayed entry Cox regression models. All statistical tests were two-sided. Results: Proportionately more breast cancer patients with functional limitations were older, less educated and obese (p<.0001 for each). The age-adjusted hazard ratio for functional limitations as a 13-level variable of 1.08 (95%CI 1.05-1.14) suggests that there was an 8% increase in risk of death with each additional limitation. In multivariate models, functional limitations were associated with a statistically significant risk of death from all causes [hazard ratio (HR)=1.40, 95% confidence interval (CI) 1.03-1.92] and from competing causes (HR=2.60, 95%CI 1.69-3.98) but not from breast cancer (HR=.90, 95%CI .64 -1.26). Conclusion: Women with breast cancer and functional limitations present after initial breast cancer treatment have a greater likelihood of dying of non-breast cancer causes than breast cancer. Interventions aimed at improving physical function among women with breast cancer may lead to improvements in life expectancy.

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HPV seropositivity is not broadly associated with colorectal polyps except for incident hyperplastic polyps in men Burnett-Hartman, A., Newcomb, P., Schwartz, S., Potter, J., Mandelson, M., Madeleine, M., Carter, J., Galloway, D. Background: While a few studies have reported detection of oncogenic human papillomavirus (HPV) DNA in colorectal neoplasias, others have not. Also, the frequency of detection is highly variable, and DNA analyses are subject to contamination. Objective: We examined the association between antibodies to oncogenic HPV and two types of colorectal polyps, adenomas, precursors to colorectal cancer, and hyperplastic polyps, common polyps recently hypothesized to have malignant potential. Methods: We conducted a case-control study of patients with colorectal adenomas (n=153), hyperplastic polyps (n=91), and controls without polyps (n=231), aged 30-79, who were in a study of colonoscopy patients. Before colonoscopy, blood was collected, and participants completed a questionnaire. Plasma HPV antibodies for types 16, 18, 31, 33, 35, 39, 45, 52, 58, and 68 were assessed via a bead-based multiplex Luminex assay. Positivity was determined using sex-specific cutpoints from a separate population of healthy men and women from the same geographic area with 1 lifetime sex partner. We used adjusted polytomous regression to estimate odds ratios (ORs) and 95% confidence intervals (CIs) for the separate associations between HPV seropositivity and adenomas and hyperplastic polyps. Results: There was no association between HPV seropositivity for all types combined and either type of polyp, for either men or women. When analyses were restricted to participants without previous polyps, among men [adenomas (n=31), hyperplastic polyps (n=28), and controls (n=68)], there was an association between seropositivity and hyperplastic polyps when all HPV types were combined (OR=3.1; 95% CI: 1.2-8.3). This association was largely influenced by seropositivity to HPV 33 (OR=10.9; 95% CI: 2.0-58.4). For positivity to either type 16 or 18, the OR for hyperplastic polyps was elevated, but not statistically significant (OR=3.0; 95% CI: 0.98-9.3). No associations were seen for adenomas in men nor for either polyp type in women. Discussion: Our findings underscore the importance of continuing to study the relationship between HPV and colorectal neoplasia, and possible sex-specific differences. Studies are continuing to determine whether seropositivity correlates with detection of HPV DNA in polyps.	Etiologic differences among type 1 and type 2 endometrial cancer cases Felix A, Stone R, Bowser R, Edwards R, Chivukula M, Linkov F, Weissfeld J Introduction: Endometrial cancer (EC) is the most common gynecologic malignancy in the U.S. with 40,100 cases newly diagnosed in 2008. Two subtypes of EC have been described based on histologic and molecular differences. Type 1 is more common, diagnosed in early stages, and of endometrioid morphology. Type 2 tumors are rare and of papillary serous or clear cell histology; the prognosis associated with this type is poor, regardless of stage at diagnosis. Type 1 endometrial carcinogenesis is generally associated with estrogen-related risk factors (obesity, nulliparity, estrogen replacement therapy), whereas the etiology of type 2 EC is unknown. The goal of this study was to evaluate risk factor differences between the two distinct endometrial cancer groups. Methods: We conducted a retrospective case-case study comparing type 1 (N=1,576) and type 2 (N=176) EC cases treated at Magee-Women's hospital between 1996 and 2008. Clinical data were available from the University of Pittsburgh Medical Center (UPMC) Cancer Registry. Logistic regression analysis was used to calculate the adjusted odds of being diagnosed with type 2 EC compared to type 1 EC. The risk factors of interest in this study were: age, BMI, race, year of diagnosis, smoking status, alcohol consumption, parity, hormonal replacement therapy, oral contraceptive therapy, and menopausal status. Results: The major risk factors associated with type 2 EC were older age at diagnosis (OR: 1.04 per 1 year increase in age, 95% CI 1.02-1.05) and non-white race (OR: 2.98, 95% CI 1.67-5.3). BMI was inversely associated with development of type 2 EC. Obese cases (BMI>30 kg/m2) were 57% less likely to develop type 2 EC compared to normal weight cases (>18.5kg/m2 BMI <24.9 kg/m2) (OR: 0.43, 95% CI 0.28-0.67). Conclusion: This registry-based study examined risk factors associated with developing type 2 EC in a large group of patients diagnosed with endometrial cancer. The carcinogenic pathway for type 2 EC does not appear to be strongly driven by excess estrogen exposure, as obese cases had a reduced risk of type 2 vs. type 1 EC. Future studies on the etiology of type 2 EC should include risk factors that are not related to estrogen exposure.

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Urinary estrogen metabolites and prostate cancer risk: a case control analysis using healthy and biopsy controls Kosti O., Goldman L., Bebu I., Hsing AW., Collins S., Lynch J., Dritschilo A., Xu X., Veenstra T., and Goldman R. The high incidence of prostate cancer together with the fact that only few risk factors for the disease have been identified, emphasize the need to develop biomarkers for prostate cancer detection. Prostate gland is considered as an androgen-dependent organ, however it is now recognized that estrogens and their receptors are involved in the normal and abnormal growth of the prostate gland. The two main pathways for metabolizing estrogens are via 16a-hydroxylation and 2-hydroxylation and the 16a-metabolites are considered the predominantly biologically active metabolites and 2-OHE1 as less estrogenic. The aim of this study was to evaluate urinary estrogens and estrogen metabolites (EMs) as a biomarker for prostate cancer risk. Using a liquid chromatography-tandem mass spectrometry method, urinary concentration of 15 EMs was determined in 77 prostate cancer cases, 77 healthy controls and 37 subjects that underwent biopsy and confirmed to be cancer-free (biopsy controls). Multivariate Analysis of Variance (MANOVA) was used to identify the interactions among the EM levels and their association to case control status. Wilcoxon rank-sum test was used to compare urinary EM concentrations individually by case status. Results showed that the 3 groups where comparable when MANOVA testing was applied. Ranking of EM concentrations showed that the catechol estrogen 4-OHE1 was relatively more abundant in prostate cancer patients compared to participants without cancer. Univariate analysis showed a tendency for the metabolites with high estrogenic activity, namely16-KE2 and 17-epiE3 to be secreted in lower amounts among prostate cancer patients. Multivariate logistic regression analysis confirmed that having low 16-KE2 (based on median of healthy controls) increased risk of prostate cancer with an odds ratio (OR) of 1.97 (95% CI, 0.86-4.52), adjusted for age, race, smoking status, presence of benign prostatic hyperplasia and time of urine collection. A significant trend of increasing risk with lower 16-KE2 levels was also observed (P-for-trend = 0.02), with OR for the highest quartile of 4.62 (95% CI =1.34-15.99) compared to the lowest quartile. Our study encourages further investigation of urinary estrogens and EMs as biomarkers for prostate cancer risk assessment.	Trends in gallbladder cancer incidence and mortality rates and laparoscopic cholecystectomy rates in the U.S., 1973-2006 Le M, Hart A, Henson D, and Albores-Saavedora J Purpose: To describe the changing rates of incidence and mortality of gallbladder cancer (GBC) in the U.S. and the effect of the increasing laparoscopic cholecystectomy (LC) rate. Methods: Incidence and mortality rates of GBC between 1973 and 2006 were calculated using the NCI SEER Program. The Nationwide Inpatient Sample (NIS) database at the Agency for Healthcare Research and Quality (AHRQ) was used to estimate national rates of LC performed on patients admitted to hospitals between 1993 and 2006. Additionally, the CDC National Hospital Ambulatory Medical Care Survey (NHAMCS) was used to estimate rates of LC performed on an outpatient basis between 1992 and 2006. Results: Between 1973 and 2006, the age-adjusted incidence rate of GBC in the U.S. progressively declined from 1.99 to 1.12 per 100,000 persons (APC = -1.93, CI:-2.16 to -1.69), and the age-adjusted mortality rate decreased by more than half from 1.50 to 0.67 per 100,000 persons (APC=-2.69, CI: -2.78 to -2.6). Among whites, both incidence and mortality significantly decreased from 1.97 to 1.08 and 1.52 to 0.63, respectively. Among blacks, however, the incidence remained stable (1.8 to 1.69), while mortality declined slightly (1.12 to 0.83). Significant decreases in incidence and mortality were also observed in both men (1.29 to 0.93 and 0.97 to 0.45, respectively) and women (2.5 to 1.28 and 1.87 to 0.81, respectively). Between 1993 and 2006, the rate of inpatient LC was relatively stable (1.2 per 1,000 persons in 1993 to 1.1 in 2006), but the rate of outpatient surgeries increased significantly from 0.7 to 1.7. Conclusions: Our study demonstrated an inverse relationship between decreasing incidence and mortality rates of GBC and increasing LC rates. GBC continues to occur predominantly in women; however, incidence and mortality rates for women have progressively approached those for men. Significant declines were observed among whites, but not among blacks. Although the lowest rates were once found among blacks, incidence and mortality among blacks have exceeded those of whites since the mid-1990s. The treatment of gallstones, an etiologically associated pre-cancerous condition, by laparoscopic cholecystectomy may represent an unusual preventive approach to a relatively uncommon cancer.

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Oral contraceptive, menopausal hormone therapy use and risk of non-Hodgkin lymphoma in the California Teachers Study Y Lu, J Sullivan-Halley, KD. Henderson, H Ma, L Duan, SS. Wang, J Lacey, ET. Chang, D Deapen, L Bernstein	Familial Cancer Risk in a Colorectal Cancer Case-Control Study Phillips L, Barnholtz-Sloan J, Thompson C, Li L.
Objective: To evaluate whether use of oral contraceptives (OCs) or menopausal hormonal therapy (MHT) is associated with B-cell non-Hodgkin lymphoma (NHL). Methods: Within the prospective California Teachers Study cohort, women under age 85 with no history of hematopoietic cancer were followed from 1995 through 2007 for diagnosis of B-cell NHL. Overall, 547 women of 116,779 women eligible for analysis of OC use and 402 of 54,758 postmenopausal women eligible for analysis of MHT use developed B-cell NHL. Relative risks (RR) and 95% confidence intervals (CI) were estimated by fitting multivariable Cox proportional hazards models. Results: Women who used OCs had marginally lower risk of B-cell NHL than women who had never used OCs (RR=0.86, 95% CI=0.69-1.06). The reduced risk was most pronounced among women who started OCs before age 25, but did not decrease with increasing duration. No association with MHT was observed when MHT ever users were compared to the never users (RR=1.05, 95% CI=0.83-1.33); this result was consistent across formulations of MHT [unopposed estrogen therapy (ET), combined estrogen and progestin therapy (EPT)]. Among women who had never used MHT, women with a bilateral oophorectomy had three times greater risk than those with natural menopause (RR=3.15, 95% CI=1.62-6.13), whereas there was no association with bilateral oophorectomy among women who had used MHT. In stratified analyses according to hysterectomy and oophrectomy status, ET and EPT did not affect risk for women with natural menopause or those with hysterectomy who had at least part of an ovary remaining. Among women who had a bilateral oophorectomy, ET reduced risk of NHL (RR=0.41, 95% CI=0.21-0.82). Conclusion: These data suggest that ET use decreases the risk of B-cell NHL among women with both ovaries removed, but not among women retaining at least part of an ovary. In other subgroups MHT does not influence risk. Additional study of associations of MHT and OCs with B-cell NHL are warranted.	Individuals with colorectal cancer whose family members have colorectal or other cancer diagnoses are more likely to have a hereditary form of the disease. The purpose of this study was to evaluate familial risk of the four major cancer types, colorectal, breast, lung, and prostate, in a population-based case-control study of colorectal cancer. Occurrence of each of these cancers in first or second degree relatives of colorectal cancer cases (n=318) identified through the Kentucky Cancer Registry were compared with control participants (n=389) from the same base population served by the registry. Cases and controls differed significantly with regard to gender (53% females among cases, 64% among controls) and age at diagnosis/selection (61% of cases diagnosed at >60 years old, 40% of controls selected at >60 years old). Unconditional logistic regression analyses adjusted for gender and age showed increased odds of having at least one first degree or second degree relative with colorectal cancer (OR=1.78, 95% CI=1.28, 2.46) and stronger association with both first and second degree relatives affected (OR=3.18, 95% CI=1.41, 7.22). Colorectal cancer was also positively associated with having at least one first or second degree relative with prostate cancer (OR=1.72, 95% CI=1.08,2.74). Neither breast cancer nor lung cancer in a first or second degree relative were associated with colorectal cancer (OR=0.74, 95% CI=0.46, 1.20 for breast cancer; OR=1.01, 95% CI=0.47, 2.17), but breast cancer in two or more first or second degree relatives showed an inverse association (OR=0.33, 95% CI=0.14, 0.74). Our results support previous studies showing familial associations for colorectal cancer and suggest that having a family member with prostate cancer may be associated with familial colorectal cancer. The surprising results for family members with breast cancer may be due to selection bias, as control participants with a family history of breast cancer might have been more likely to participate. Examination of this question in a larger dataset to verify these results is warranted.

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Leading Causes of Cancer Mortality among Women Veterans in Texas, 1979-2002 Savas L, del Junco D, Bastian L, and Vernon S Purpose. The primary aim of this population-based, historical cohort study is to describe cancer mortality outcomes of women veterans residing in Texas, augmenting the sparse research focused on long-term health outcomes of this growing population. Methods. This proportional cancer mortality ratio (PCMR) study describes the leading causes of cancer mortality among women veterans ages 25 years and older, with the Texas population of women as the standard for comparison. The U.S. National Registry of Women Veterans (NRWV), an historical occupational database containing approximately 1.4 million records of women who served in the active U.S. military and were discharged between 1942 and 1997, was probabilistically cross-linked with Texas death certificate records (1979-2002). Results. A total of 7,162 women veteran decedents were identified, 2,070 (29%) of deaths were due to cancer. Among all cancer deaths, 55% were white, 6% were black and 3% were Hispanic Americans, and over half (52%) were 65 years and older. The ten leading causes of cancer death were: lung (n=512, 25%), breast (n=445, 21%), colorectal (164, 7.9%), pancreatic (n=109, 5.3%), ovarian (105, 5.1%), leukemia (n=94, 4.5%), lymphoma (67, 3.2%), brain (50, 2.4%), urinary (48, 2.3%), and cervical (43, 2.1%). Age and race-adjusted PCMRs indicated a proportional excess risk for cancers of the breast (PCMR: 1.23, 95% CI: 1.11-1.36), respiratory system, 97% of which comprised lung cancer, (PCMR: 1.24, 95% 1.11-1.39), and leukemia (PCMR: 1.27, 95% 1.02-1.57). PCMRs were significantly decreased for cancers of the digestive and gynecologic systems, although the PCMR for ovarian cancer was inconclusive (PCMR: 0.97, 95% 0.79-1.20). Conclusions. A 1985 survey conducted among a national cross-section of all female veterans reported an increased prevalence of breast and gynecologic cancers; however, these results conflict with findings from two mortality studies conducted among female Vietnam War era veterans. While high 5-year survival rates may weaken mortality as an indicator of cancer burden for breast, the urinary system, gynecologic and colorectal cancers, this study contributes exploratory findings to generate hypothesis for future research aimed at long-term health needs of women veterans.	The effect of changing breast cancer incidence rates on the calibration of the Gail model Schonfeld S, Pee D, Greenlee R, Hartge P, Lacey J Jr., Park Y, Schatzkin A, Visvanathan K, Pfeiffer R Purpose: The Gail model combines 1983-1987 Surveillance, Epidemiology and End Results (SEER) program invasive breast cancer incidence rates and competing mortality rates with relative risks estimates for five breast cancer risk factors to compute a woman's risk of developing invasive breast cancer. Recognizing that increasing breast cancer rates during the 1990s may have affected model calibration, we validated the Gail model in two recent cohorts. Methods: We validated the Gail model among Caucasian, postmenopausal women from the NIH-AARP Diet and Health Study (NIH-AARP, 1995-2003), and the Prostate, Lung, Colorectal and Ovarian Cancer Screening Trial (PLCO, 1993-2006). Model calibration was evaluated by comparing the number of breast cancers expected (E) from the Gail model with that observed (O). We then reevaluated model calibration after replacing the 1983-1987 SEER invasive breast cancer incidence rates and competing mortality rates with 1995-2003 SEER rates. Results: The Gail model significantly underestimated the number of breast cancer cases by 13% in NIH-AARP, E/O = 0.87 (95% confidence interval [CI]: 0.85-0.89) and by 14% in PLCO, E/O=0.86 (95% CI: 0.82-0.90) in PLCO. We suspected that the substantially lower age-specific incidence rates used in the Gail model (SEER 1983-1987) compared with the rates in the validation cohorts, particularly for ages <70, may have contributed to this underprediction. After replacing the 1983-1987 SEER rates with those from 1995-2003, the main follow-up period for our cohorts, the model was well-calibrated overall in both cohorts: E/O=1.03 (95% CI: 1.00-1.05) in NIH-AARP and E/O=1.01 (95% CI: 0.97-1.06) in PLCO. In NIH-AARP and PLCO, respectively, 14.09% and 13% of women aged 50-55 years had a 5-year projected a risk lower than the recommended threshold of 1.66% for use of tamoxifen or raloxifene based on the Gail model, but ≥1.66% based on the updated model. Conclusion: This study highlights the importance of validating models for risk prediction in contemporary cohorts and regularly updating population-based incidence rates used in absolute risk models. Good calibration of a model is important to ensure that a risk prediction model is useful for clinical decision making.

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Associations of telomere length and diabetes with pancreatic cancer Skinner H., Gangnon R., Chari S., Johnson R., Boardman L. Risk for pancreatic cancer increases strongly with older age, and diabetic conditions have been consistently associated with pancreatic cancer, although the temporal relation between diabetes and pancreatic cancer remains uncertain. Telomeres are complexes of proteins and hexameric DNA repeats that cap and protect the ends of chromosomes. Telomere length decreases with subsequent cell divisions and the length of telomeres in peripheral blood leukocytes (PBL) has been observed to be shorter with older age, and shorter among cases of several cancer types than in controls. We conducted a hospital-based case-control study with 500 cases of pancreatic cancer, and 1,000 controls without pancreatic cancer (500 diabetic and 500 non-diabetic). We examined associations between PBL telomere length and pancreatic cancer status using generalized additive models (GAM), adjusting for age, body mass index, and gender. We observed significant heterogeneity in the association between PBL telomere length and pancreatic cancer by fasting blood glucose status (p <0.003). Among those with impaired fasting blood glucose (> 100 mg/dL) there was a continuous inverse association between pancreatic cancer and telomere length in the GAM adjusted for age, body mass index, sex, and cigarette smoking status. The adjusted odds ratio for pancreatic cancer comparing the 10th percentile of telomere length (4,184 bp) to the 90th percentile (7,823 bp) was 3.21 (95% C.I. 1.87, 5.52). In contrast, no significant association was found between telomere length and pancreatic cancer status among those with normal fasting blood glucose (OR=0.67; 95% C.I. 0.39, 1.05; comparing 10th to 90th percentiles). We did not find strong evidence for effect modification of the relation between PBL telomere length and pancreatic cancer by age, gender, or cigarette smoking status. Shorter telomeres in peripheral blood may portend higher risk for pancreatic cancer among those with impaired fasting blood glucose, or may indicate cases who are more likely to have tumors that result in diabetes.	The Vitamin D pathway and mammographic breast density BL Sprague, A Trentham-Dietz, HG Skinner, DSM Buist, ES Burnside, EJ Aiello Bowles, RE Gangnon, GS Sisney Laboratory studies have demonstrated that Vitamin D has a number of chemopreventive properties, and that these properties may be mediated or modified by other molecules in the Vitamin D pathway. For example, parathyroid hormone and IGF-1 are downstream targets of Vitamin D with known mitogenic properties. However, there is very little epidemiologic data exploring the effects of Vitamin D on breast cancer risk in the context of these other molecules. We explored the molecules in the Vitamin D pathway in relation to mammographic breast density, a strong intermediate marker of breast cancer risk. A total of 269 postmenopausal women (ages 55-70, with no history of postmenopausal hormone use) were enrolled from mammography clinics in Madison, Wisconsin. Subjects completed a questionnaire regarding known breast cancer risk factors and provided a blood sample that was analyzed for serum levels of 25-hydroxy vitamin D [25(OH)D], retinol, calcium, parathyroid hormone, and insulin-like growth factor-1 (IGF-1). Percent breast density was measured from subjects' mammograms as a continuous variable using a computer-assisted thresholding method (Cumulus software). We used multivariable linear regression to analyze the association between serum 25(OH)D levels and percent breast density while adjusting for age, body mass index, and month of blood draw. There was no association between serum 25(OH)D level (ng/mL) and percent breast density as continuous variables (beta coefficient = -0.04; 95% CI: -0.18, 0.10; P=0.53). Multivariable-adjusted means of percent breast density across increasing quartiles of 25(OH)D were 15.3 (95% CI: 12.4, 18.3), 15.4 (95% CI: 12.6, 18.1), 13.6 (95% CI: 10.7, 16.6) and 15.1 (95% CI: 12.2, 18.0); Ptrend=0.73. Contrary to our hypothesis, the association between 25-hydroxy-vitamin D and breast density remained null among women with low serum retinol (<0.60 ng/mL), low serum calcium (<9.1 mg/dL), and in women with low body mass index (<25 kg/m2). Neither parathyroid hormone nor IGF-1 was associated with percent breast density (P>0.15). These cross-sectional findings suggest that the molecules of the Vitamin D pathway are not associated with mammographic breast density.

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Associations of genetic variation with hepatocellular and gastric carcinoma in a case-control study of family history of cancer. Tarleton H, Cheng S, Mu L, Zhao J, Wang H, Zhang Z Few studies have examined genetic variation and family history of cancer for cancers of the liver and stomach. We examined the association of heritable genetic variation with liver and stomach cancer with family history of cancer and with family history of site-specific cancer, using a population-based case-control study in Taixing, China (204 liver cancer cases, 206 stomach cancer cases, and 415 healthy controls) for our analysis. Epidemiological data was collected by questionnaire and DNA isolated from biospecimens was genotyped for single nucleotide polymorphisms (SNPs) in candidate genes from metabolic, DNA repair and inflammatory pathways. Odds ratios (ORs) and 95% confidence intervals (CIs) were estimated by unconditional logistic regression and adjusted for potential confounding variables: age, gender, education, presence of HBsAg (liver) or Helicobacter pylori (stomach), smoking status and pack years, drinking frequency, BMI, and aflatoxin (liver). We confirmed a positive association between family history of cancer (FHC), family history of liver cancer (FH-HCC) or family history of stomach cancer (FH-GC) and risk of liver cancer or stomach cancer. An inverse relationship has been observed between two SNPs in the PPARD gene and liver cancer, in the group with FHC (OR 0.29, 95% CI 0.12~0.69 and OR 0.27, 95% CI 0.11~0.62) and in the group with FHC-HCC (OR 0.11, 95% CI 0.02~0.70 and OR 0.18, 95% CI 0.04~0.88). We also identified a positive relationship between two SNPs in POU5F1 and liver cancer, in the group with FHC (OR 2.90, 95% CI 1.19~7.04 and OR 2.46 with 95% CI 1.06~5.71). In stomach cancer, we found a positive relationship between a SNP in IL-10 (OR 3.48, 95% CI 1.43~8.46) and stomach cancer in the group with FHC. We identified inverse relationships between SNPs in PON1 (OR 0.38, 95% CI 0.16~0.87) and MTRR (OR 0.14, 95% CI 0.02~0.83) and stomach cancer, in those with FHC. Findings suggest a protective role for genetic variation in PPARD in individuals with FHC and FH-HCC and for genetic variation in PON1 and MTRR in individuals with FHC and FH-GC. Results also suggest that polymorphisms in POU5F1 and IL-10 contribute to risk of liver cancer and stomach cancer, respectively, in those with FHC. We will replicate these findings in a larger sample.	Blood genomic DNA demethylation is a marker of breast cancer tumor stage Wu, HC; Cruzata LD; Kappil M; Hibshoosh, H; Santella RM; Terry MB The loss of genomic methylation resulting in chromosomal instability contributes to the process of breast cancer development. Quantitation of methylation levels in white blood cell (WBC) DNA is being applied to studies of breast cancer susceptibility. However, little is known about whether genomic demethylation in WBC differs by specific breast cancer phenotypes. Using information from 218 women with breast cancer (N=187 invasive, and N=21 in situ) from families enrolled in the Breast Cancer Family Registry, we conducted a case only study to examine whether genomic methylation in WBC DNA is associated with different breast tumor characteristics. Genomic methylation levels were measured by MethyLight for three repetitive elements (LINE1, Sat2M1 and AluM2), the luminometric methylation assay (LUMA), and a [3H]-methyl acceptance assay and were compared to histopathological characteristics of the tumors. WBC genomic methylation levels did no differ by either estrogen or progesterone receptor status or histology of the tumor. However, WBC DNA from women with invasive breast cancer had significantly less methylation of LINE1 (p=0.02) and AluM2 (p=0.002) compared to cases with in situ breast cancer. Our data, if replicated in longitudinal studies with larger sample, suggest that the degree of genomic demethylation in WBC has potential clinical use as a biomarker of disease process.

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Age at Mammogram and the Predictive Value of Mammographic Density for Breast Cancer Risk C Thompson, P Silverman, D Plecha, L Li High mammographic breast density is a well established risk factor for breast cancer. However, while mammographic density (MD) is known to vary throughout a woman's reproductive life, there has been little investigation into whether the timing of the MD measurement influences the predictive value of MD on breast cancer risk. 1436 mammograms from 203 women who subsequently developed breast cancer (cases) and 104 controls were quantitatively assessed for percent dense tissue using a well validated thresholding method. Differences in MD between cases and controls with available mammograms every two years from ages 40-70 were evaluated via a t-test. Linear interpolation was used to estimate MD at ages in between available MD data. Breast cancer cases at age 40 had significantly higher percent dense tissue on average (36.5%) compared with controls at the same age (24.6%) (p=0.041). Similar results were found at age 42 (mean MD = 33.9% in cases vs. 22.3% in controls, p=0.029) and age 46 (mean MD = 32.1% in cases vs. 22.8% in controls, p=0.047). However, this separation disappears around menopause and by 50 is almost identical, when the mean MD is 22.8% in cases and 21.0% in controls (p=0.61), and after age 50, MD is not statistically significantly different between cases and controls (p>0.1). This pattern agrees with previous models of MD where the effects of estrogen and high MD are no longer materially different between breast cancer cases and controls after menopause. The data presented here suggests that MD observed in premenopausal mammograms is a better predictor of future breast cancer risk than the most recently observed MD and underscores the importance of early mammography in women.	Common variation in inflammation-related genes and mammographic density in postmenopausal women Brand H, Weissfeld J, Diergaarde B Mammographic density (MD) is one of the strongest known risk factors for breast cancer. Women in the highest density group have a 4- to 6-fold greater risk of breast cancer than women in the lowest group. Information on the etiology of breast density is currently limited. However, genetic factors and gene-environment interactions likely account for the majority of variation in MD, studies involving twins estimate heritability to be around 65%. Identification of the genetic factors involved is important for understanding breast density biology and how it affects breast cancer risk. Estrogens play a critical role in the etiology of breast cancer and have been shown to increase breast density. Cytokines, particularly interleukin-6 (IL6) and tumor necrosis factor-alpha (TNF-alpha), are, among other things, important estrogen synthesis regulators in breast tissue. Functionally relevant polymorphisms in IL6, TNF-alpha or the genes that code for their receptors may alter exposure to estrogens and so affect MD. To gain further insight into the role of cytokines in the etiology of breast density, we evaluated the relationship between 45 common polymorphisms in IL6, IL6R, IL6ST, TNF-alpha, TNFRSF1A and TNFRSF1B and percent MD among cancer-free controls (N=369) from the Mammogram and Masses study. All study participants were postmenopausal and white, mean age was 62.1 (± 8.2) years, mean body mass index was 28.1 (± 5.9) kg/m2, and mean percent MD was 30.2 (± 19.6). None of the evaluated single nucleotide polymorphisms (SNPs) in IL6 and TNF-alpha were significantly associated with percent MD in our study population. However, two tagSNPs in IL6R, rs11265608 and rs64227627, and one in IL6-ST, rs11574780, were statistically significantly associated with percent MD. For both rs11265608 and rs64227627, mean percent MD was significantly higher among women with at least one rare allele than among women homozygous for the common allele (P=0.01 and P=0.03, respectively). For rs11574780, mean percent MD was significantly higher among women homozygous for the common allele (P=0.03). Our data suggest that common variation in IL6R and IL6ST is associated with percent MD.

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The Effect of a CYP1B1 Polymorphism on the 2OHE1:16OHE1 Estrogen Metabolite Ratio and Breast Cancer Risk Taioli E, Feingold E, & Garte S. Purpose: Urinary levels of the ratio of two estrogen metabolites, 2 – hydroxyestrone (2OHE1) and 16α – hydroxyestrone (16OHE1) have been implicated as a marker of breast cancer risk. The Leu432Val polymorphism in the estrogen metabolism gene, Cytochrome P450 1B1 (CYP1B1), has been found to be associated with urinary levels of the 2OHE1:16OHE1 estrogen metabolite ratio (EMR). Therefore, the objective of this study was to determine if the Leu432Val polymorphism has any influence on the urinary 2OHE1:16OHE1 EMR and breast cancer risk. Methods: A case-control population of 137 Caucasian women was analyzed. Cases were identified through the Breast Cancer Surgical Registry at Magee-Women's Hospital, Pittsburgh, PA, while controls were obtained from numerous genetic association studies that have been described elsewhere. Urinary estrogen metabolites were assayed using a basic Enzyme Linked Immunosorbent Assay (ELISA) from the Immuna Care Corporation (Immuna Care, Bethlehem, PA). Genotyping was done using a basic Restriction Fragment Length Polymorphism-PCR (RFLP-PCR). Results: A significant association between the 2OHE1:16OHE1 EMR and breast cancer risk was observed among this study population. Overall, the CYP1B1 Leu432Val polymorphism was not associated with breast cancer risk, but was associated with the 2OHE1:16OHE1 EMR. Associations with other known risk factors, such as age and BMI, were also found. Conclusion: The urinary 2OHE1:16OHE1 EMR may play a role in altering breast cancer risk. The CYP1B1 genotype does not appear to mediate this risk, but if in fact it does alter breast cancer risk, it does so by altering the 2OHE1:16OHE1 EMR.	Comparison of Black and White Crude and Age Adjusted Mortality Rates in the Analysis of Breast Cancer Gishta, R., Henson, D., Young, H., Ulfers, M. Purpose of Study To investigate the relationship between crude and adjusted breast cancer mortality trends among Whites and Blacks. Study Methods Using SEER breast cancer mortality data for the years 1969-2006, crude and adjusted mortality trends were compared for the entire female Black (n= 159,081) and White (n= 1,288,442) population sample. Results In breast cancer, there is a larger difference seen between crude and adjusted mortality rates for Blacks as compared to Whites. Among the Black female population, the calculated age adjusted mortality rates (APC 0.3 %, p=0.01) are significantly higher than the calculated crude mortality rates (APC 0.9 %, p <0.0001). In contrast, the White female population crude morality rate (APC -0.1%, p=0.4) is higher than the age-adjusted mortality rate (APC -0.90%, p <0.0001). Conclusion The difference seen between crude and adjusted breast cancer mortality rates in Blacks compared to Whites may be due to a changing age distribution of Blacks within the SEER population sample. In addition, the SEER population sample may be more representative of Whites than Blacks, explaining why mortality rates adjusted for age are significantly higher in the Black sample compared to the White. This approach has the potential to substantiate the racial disparities that exists among Black and White breast cancer mortality.

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Reaching Underserved Women with Mammography: 15 month experience with a Mobile Prevention Unit and Prevention Program Erin T Davis, MPH, Tina Hembree, MPH Sydney C. Beache, Deborah Ballard, MD Sandra E. Brooks MD, MBA Objective: There is much debate regarding the efficacy of mammography screening in women <50. No cost and low cost service providers may be required to target screening to the population at highest risk in order to maximize utility of resources. We sought to describe outcomes of women > 40 undergoing mammography screening in underserved areas through a mobile unit and prevention program affiliated with a large network cancer program in Louisville, Kentucky. Methods: We conducted a retrospective review of women undergoing mammography during the period 3/08-6/09. Locations determined to be high risk by GIS analysis, income and cancer incidence. Analyses included: descriptive analyses, calculation of odds ratios and confidence intervals and regression analyses. Results: Of the 1702 women, 735 (43%) were white, 884 (52%) were African American, 54 (3%) other and 236 (14%) Hispanic/Latina. The mean age was 54 (std.dev. 9.4). Twenty-eight percent of the women (471/1702) had either never had a mammogram or not had one in 5 years. Fifty-one percent were uninsured. Of the 1702 women, 662(39%) were between the ages of 40-49 (Group A) and 1040 (61%) were >49 (Group B). The majority of women resided in high risk areas (74% Group A, 51% Group B). Twelve percent (206/1702) of the mammograms were abnormal and required follow up. Women in Group A were 1.4 times more likely than women in Group B to have a screening mammogram classified as abnormal (OR 1.4 95% CI 1.05-1.88). Four women were diagnosed with cancer in group A (0.6%) and 9 in group B (0.8%), p=ns. The median age of women with cancer was 52, mean = 58, range 42-83, (std. dev. 12.5). The overall follow up rate was 92%. All women with cancer received treatment. Logistic regression analysis demonstrated women of African American race and women who had never been screened were more likely to have abnormal results (p<0.0001 and p= 0.03 respectively). Conclusion: Our targeted approach of community based screening was successful in identifying a subpopulation of women who are not regularly screened and are at risk for abnormal screening mammograms and breast cancer. Further studies are needed to determine if recommendations for screening should be based on factors other than age.	Cancer Prevention and Treatment Demonstration (CPTD) Project at Johns Hopkins: Study Rationale, Design and Baseline Characterist Ford, J; Bone, L; Howerton, M; Shapiro, G; Phelan D; Wenzel, J; Johnson, L; Markakis, D; Callender, G; Baffi, C; Mbah, O. Purpose of Study: This project is a community-based participatory research (CBPR) study designed to determine whether patient navigation is an effective approach for improving adherence to cancer screening and treatment among African American older adults who live in Baltimore City. Methods: The CPTD project is an ongoing 4-year randomized controlled trial consisting of a screening trial and a treatment trial. Participants recruited into the study are randomly assigned to receiving either educational materials (less intensive group) or educational materials plus patient navigation services (more intensive group). At baseline, participants are interviewed to ascertain demographic information, health status, healthcare utilization, cancer screening status, and barriers to cancer screening. Those assigned to patient navigation receive: 1) education and counseling regarding cancer screening and treatment and 2) tailored practical solutions to address barriers to cancer screening and treatment. Follow-up data are collected annually from all participants; additional follow up data are collected for treatment participants 6 months after enrollment into the study. Baseline data are provided here for 2,265 participants enrolled in the screening trial between September 2006 and September 2009. Results: Of the 2,265 participants enrolled in the study, 73% (n= 1,698) are female, 64% are between 65-74 years of age. Most participants have a high school diploma or less (60%). Forty-five percent (45%) of participants report living alone and 51% have 3 or more comorbidities. Notably, over 78% report knowing 'almost none of what they need to know' about Medicare coverage for cancer screening or treatment. At baseline, both the less and more intensive groups are comparable. Conclusion: Few studies have conducted community-based interventions to test the effectiveness of patient navigation in cancer screening and treatment among African American older adults. Baseline data indicate the need to address the multiple barriers that older adults may encounter related to cancer screenings and treatment.

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Determinants of mammography in women with intellectual disabilities Wilkinson J, Bowen D, Freund K, Lauer E, Rosen A. Background: Adults with intellectual disabilities (ID) are living longer and experiencing more cancer diagnoses. Women with intellectual disabilities in Massachusetts have about the same rate of breast cancer as the general population, but their mortality rate from breast cancer is double that of the general population. One explanation of this phenomenon is late diagnosis. The rate of mammography within the past 24 months in women with ID in Massachusetts is about 50%. This study compares women with ID who had a mammogram in the past two years with those who did not, using an administrative database from the Department of Developmental Services in Massachusetts. The two groups of women were compared on sociodemographic (age, residential setting) and disability-related (guardianship, documented cooperation with medical visits) variables to determine which variables were independently associated with mammography. Methods: The deidentified records of 3414 women with ID who were 40 years of age or more on 1-1-07 were analyzed. Women who had a mammogram between 1-1-07 and 12-31-08 (n=1702) were compared to those who did not (n=1712) on a number of social, demographic, and disability-related variables. Bivariate analyses were performed and significant differences between the groups were identified by chi-square analysis. Next, a logistic regression model was employed to idenitfy factors independently associated with mammography. Results: On preliminary bivariate analyses, the two group differed significantly on residential setting (p<.001), with women in 24-hour support settings more likely to have a mammogram than those in less supported settings. Cooperation with exams (p<.001) and communication ability (p<.001) were also positively associated with mammography, while having a guardian was not (p=.0056). Logistic regression analyses are pending and should be complete by the poster presentation. Conclusions: Women with ID who live in less supported settings and who have guardians appear less likely to complete a mammogram in the 2 year period studied. Cooperation with exams and communication status are also associated with mammography. Further studies are needed to explore the barriers and facilitators to mammography in women with ID.	Severity of Comorbid Conditions, Mammography Utilization and Late Stage Breast Cancer Yasmeen S, Romano PS, Xing GB, Morris C, Chlebowski RT Objective To examine whether comorbidity burden and severity affect mammography utilization and breast cancer stage at diagnosis. Methods The linked Surveillance, Epidemiology, and End Results (SEER)-Medicare database identified118,742 women aged>= 67 years diagnosed with incident breast cancer between 1993–2005 including African American (7,221), Hispanic (4,929), Asian/ Pacific Islander (3,578), other/unknown race (793) and white women (10, 2221). “Differences in breast cancer stage at diagnosis, tumor characteristics, and mammography utilization” were examine after stratifying the same by comorbidity burden and severity (i.e., stable versus unstable.” Results Mammography utilization was higher (58%) among women with >=3 stable or unstable comorbidities compared to those without comorbidities (27%) across all races/ethnicities. The odds of late stage cancer at diagnosis were associated with Black race, Hispanic ethnicity, presence of >=2 unstable comorbidities, and age >= 80 years [odds ratios (ORs), 2.5, 1.7, 1.4, and 1.25; 95% confidence intervals (CIs): 2.2 -2.9, 1.5 -1.9, 1.2-1.6 and 1.2-1.3, respectively], Adjusted for age, stable comorbidities were associated with lower odds of advanced stage cancer (OR, 0.39; CI: 0.4-9) across all racial/ethnic groups. Blacks had significantly lower odds of advanced cancer with both stable (OR, 0.28; 95% CI: 0.24 -0.33) and unstable (OR, 0.75; 95% CI: 0.66 -0.86) comorbidities, relative to having no comorbidities. However Asians with unstable comorbidities had some what higher odds of advanced stage cancer (OR, 1.3; 95% CI: 1 -1.7). Mammography use was linked to early stage cancer across all racial/ethnic groups. In multivariate regression models adjusting for mammography use, significant disparities for late-stage cancer among Blacks (OR, 1.85; 95% CI: 1.72 -2), and Hispanic (OR, 1.26; 95% CI: 1.2 -1.4) compared to whites persisted. Presence of stable comorbidities and mammography use were significant correlates of early stage cancer. Conclusions: Stable comorbid conditions were associated with earlier stage at breast cancer diagnosis, with significantly greater benefit among Black women. However, unstable comorbidities increased the odds of late-stage breast cancer.

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Peripheral leukocyte telomere length is associated with an increased risk, not survival, from young onset colorectal cancer Boardman L, Johnson A, Gangnon R, Seo S, Skinner H, Riegert-Johnson D, Petersen G Peripheral blood leukocyte (PBL) telomeres are shorter in patients with many types of the often age-related phenomena of cancer. Though shorter PBL telomeres in older onset colorectal cancer (CRC) cases compared to controls have been reported, the relationship of telomere length to young onset CRC risk and to cancer survival has not been studied. We measured relative telomere length from PBL DNA with quantitative PCR in 167 young onset (≤ 50 years old) patients with microsatellite stable tumors (MSS) and 189 age limited and gender-matched healthy controls. Neither PBL telomere length (controls mean = 5454 bp, median 5324 bp: cases mean = 5611 bp, median =5278 bp) nor the natural log of telomere length were significantly different between cases and controls. However, the relationship between telomere length and CRC was significant on GAM analysis ($p < 0.001$). The minimum estimated probability of CRC occurred when the natural log of telomere length was 7.21 (5509 bp) and the probability of CRC was highest both at the minimum (4.98; 4302 bp) and maximum (8.69; 10109 bp) natural log of telomere length. Young onset CRC was significantly associated with telomere lengths either shorter or longer than that of controls (OR 5.28; $p < 0.001$). Stage was the only statistically significant predictor of survival in univariate analysis ($p = -0.0002$). After adjusting for stage, the natural log of telomere length increased as the relative risk of death increased, but this was not statistically significant. Extremes of PBL telomere length correlate with CRC risk, but not survival, in young onset MSS CRC. Supported by K07 grant #CA93812 through the National Cancer Institute and P30 DK0845567 (Mayo Clinic Center for Cell Signaling in Gastroenterology) through the NIDDK.	Should genetic testing for cancer predisposition be offered to minors? Parent opinions regarding the genetic testing of minors Bradbury A, Patrick Miller L, Egleston B, Sands C, Li T, Schmidheiser H, Feigon M, Pawlowski K, Ibe C, Hlubocky FJ, Corbman M, O Purpose of study: BRCA1/2 testing is one example of how genetic testing can be utilized to provide individualized recommendations for cancer prevention and risk reduction. Although not currently recommended, debate continues over the risks and benefits of providing genetic testing to minors for adult hereditary cancer syndromes. We sought to determine parent opinions regarding genetic testing of minors for BRCA1/2 to inform the ongoing debate over the risks and benefits of offering BRCA1/2 testing to minors. Methods: Semi-structured interviews assessing opinions regarding the genetic testing of minors were conducted with parents who had BRCA1/2 testing and had children <25 YO. Descriptive statistics were used to summarize coded responses. Multiple logistic regressions fit by GEE were employed to evaluate multivariable associations among biomedical factors, demographic factors and support of testing minors. Results: 246 parents (60% response rate) from 2 clinical cancer risk assessment programs completed the survey. In response to a dichotomous question, 37% of parents supported testing minors for BRCA1/2. Responses to open-ended query suggest that 47% support testing minors in some or all circumstances. Having a negative test result ($p= 0.03$) and minority race ($p=0.01$) were independently associated with support of testing minors. In response to a dichotomous question, 44% of parents reported hypothetical interest in testing their own minor offspring. Responses to open-ended query suggest that 55% would consider testing their own child in some or all circumstances. Having a negative test result ($p=0.01$) and having less than a college education ($p<0.01$) were associated with interest in testing one's own child. Conclusion: Parent opinions regarding BRCA1/2 testing of minors are divided. A substantial proportion report supporting the genetic testing of minors in some or all circumstances, and would consider testing their own offspring prior to adulthood. Given the current lack of evidence supporting either the permission or restriction of BRCA1/2 testing in minors, further evaluation of the risks and benefits of providing genetic risk information and genetic testing to minors for adult-onset disease is needed to inform clinical practice and guidelines.

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Leukemic transformation by the APL fusion protein PRKAR1A-RAR? critically depends on recruitment of RXR? Qiu JJ, Lu X, Zeisig BB, Gronemeyer H, Tweardy DJ, So CWE, Dong S Purpose of study: Study of R1A-RARα fusion protein in pathogenesis of acute promyelocytic leukemia (APL) Simple state of methods: The murine bone-marrow retroviral transduction/transformation assay (RTTA) Summary of results: PRKAR1A (R1A)-retinoic acid receptor α (R1A-RARα) is the sixth RARα-containing fusion protein in acute promyelocytic leukemia (APL). Using RTTA, we showed that R1A-RARα fusion protein could transform bone-marrow progenitor/stem cells. In gel-shift assays, R1A-RARα was able to bind to a panel of retinoic acid response elements (RAREs) both as a homodimer and as a heterodimer with RXRα, and demonstrated distinct DNA-binding characteristics when compared to wild-type RARα/RXRα or other X-RARα chimeric proteins. The ratio of R1A-RARα to RXRα proteins affected the RARE interaction pattern of R1A-RARα/RXRα complexes. Studies comparing R1A-RARα with R1A-RARα(ΔRIIa) demonstrated that the RIIa protein interaction domain located within R1A was responsible for R1A-RARα homodimeric DNA binding and interaction with wild-type R1A protein. However, the RIIa domain was not required for R1A-RARα-mediated transformation, since its deletion in R1A-RARα(ΔRIIa) did not compromise its transformation capability. In contrast, introduction of point mutations within the RARα portion of either R1A-RARα or R1A-RARα(ΔRIIa) previously demonstrated to eliminate RXRα interaction or treatment of transduced cells with RXRα shRNA or a RXRα agonist reduced transformation capability. Statement of conclusions: The leukemic transformation by APL fusion protein PRKAR1A-RARα is critically dependent on RXRα, which urges RXRα as a promising target for APL.	Perceptions about BRCA Gene Testing: Implications for Family Communication Rothwell, E., Gammon, A., Lowery, J., Ballinger, L. & Kinney, A. The purpose of this study was to examine cognitions, and psychosocial and educational needs regarding genetic counseling and testing among Latina and non-Latina white women at increased risk for carrying a deleterious BRCA1/2 mutation. One-hundred and fifty high-risk cancer cases and at-risk relatives [Latina (n=60) and non-Latina (n=87)] were recruited from enrollees in three population-based registries of the National Cancer Institute's Cancer Genetic Network. Computer–assisted telephone interviews were conducted with participants who enrolled in the Colorado, New Mexico, and Utah network sites. Several open-ended questions elicited opinions on benefits, barriers, and limitations of BRC1/2 testing, and points of discussion during clinical cancer genetic consultations. A qualitative content analysis was used to analyze responses for each of the open-ended questions. This resulted in 712 coded responses that were categorized into the four major categories: genetic testing benefits, limitations, barriers, and educational needs. The most prevalent theme that emerged from the data was familial cancer risk communication. Participants cited the most important benefit of testing as ability to inform other family members about their cancer risk. Perceived limitations (emotional distress, unnecessary treatment decisions) and barriers (financial concerns and fear) regarding BRCA testing were the most commonly cited concerns regarding genetic testing. Assistance with the process of communication of genetic risk information with relatives was the most commonly cited psycho-educational need. No appreciable ethnic differences were observed. Study findings document concerns among an ethnically diverse population-based sample and indicate a need for clinicians to assist high-risk women with the process of communicating genetic test results to their at-risk family members. Furthermore, study results suggest that women need equal assistance explaining genetic information as accurately as possible as well as identifying strategies for overcoming family communication barriers. To address issues specific to family cancer risk communication, clinicians may consider incorporating family counseling skills into their practice.

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Information Needs of Parents in Talking to Family Members about BRCA1/2 Genetic Test Results M. E. Sharff; T. A. DeMarco; B. N. Peshkin; K. P. Tercyak Purpose: We assessed parents' (tested mothers + partners) information needs and preferences in deciding to talk to their adult relatives and minor children about BRCA1/2 genetic test results in preparation for developing adjunct decision support services to families. Methods: Telephone interviews were conducted with 213 mothers undergoing genetic counseling and testing for BRCA1/2 and 104 of their non-tested partners 1-month after post-test counseling. Parents could endorse up to 5 resources (talking to other participants, reading print materials, family counseling, support group, other) they would find helpful in making decisions about talking to adult relatives and children (ages 8-21) about BRCA1/2 test results. All data were summarized descriptively. Results: The M (SD) number of adult resources endorsed by mothers was 3.16 (1.38), and 3.05 (1.48) for partners. The M number of child resources was 3.22 for both mothers (1.37) and partners (1.31). Mothers and their partners endorsed similar information needs in making decisions for adult relatives ($r = 0.27$, $p = .003$) and for minor children ($r = 0.19$, $p = .04$). Print materials were the most commonly cited need; attending a support group was cited least. Resource need did not significantly vary by maternal BRCA1/2 test result (carrier, noncarrier, uninformative). Summary: Mothers tested for BRCA1/2 and their partners have similar information needs when deciding to talk to their family members about genetic test results after post-test counseling has taken place, independent of maternal carrier status. Print materials +2 additional resources were commonly noted as potentially helpful in making family communication decisions. Post-counseling adjuncts focusing on the provision of decision support surrounding family communication with relatives appear warranted in this population.	"It is a topic not to be quiet about" Cueva, M Cancer…that word can be so hard to say and even harder to talk about for many Alaska Native peoples. How will inviting Alaska's community health workers to create their own 2-3 minute cancer-related digital story as part of a week-long cancer education course support cancer conversations, knowledge, attitudes, and healthy choices? Two cancer education courses were provided in which 14 diverse community health workers from throughout Alaska created their own digital story. Participants told a first person story in their own voice and accompanied it with pictures using computer-based technology. Written end-of-course evaluations, follow-up teleconferences, and post-course telephone interviews provided understanding about the praxis of digital storytelling with basic cancer education. On written-end-of course evaluations, 100% of participants wrote that combining digital storytelling with cancer education supported their learning in culturally respectful ways. "…everyone has a story and everyone should be given the opportunity to tell theirs." "By telling our own story, it encouraged us to think deeply about the subject." In response to the question, "Will you do anything differently as a result of this digital storytelling workshop?" 100% of participants wrote ways they would take better care of themselves, their families, and their patients. Within one week of returning home to their villages, stories entered the silence surrounding cancer. In the words of a participant, "I will never shut up about getting screened." During follow-up conversations, participants talked about how the course made a difference in their work with patients, families, and their communities. Participants are making cancer conversations everyday by sharing their digital stories at community bake sales, school presentations, tribal council meetings, on local television, and computer list serves. The digital stories are being passed forward as each person knows of someone else whom they want to hear their stories. In the words of one story viewer, "Prevention is the key eh" as he scheduled his colonoscopy. Digital storytelling empowered Alaska's community health workers to give voice to cancer conversations which is changing people's lives.

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Evaluating an Intervention to Increase Cancer Knowledge in Racially Diverse Communities in South Carolina Ford M., Wahlquist A., Ridgeway C., Harper R., Hamilton I., Sweat M., Campbell K., Garrett-Mayer E., Objective. Cancer mortality rates for African Americans in South Carolina (SC) are among the highest in the nation. Lack of knowledge likely contributes to cancer disparities. Purpose. We conducted a community based cancer education intervention to improve cancer knowledge among African American and other minority communities. Methods. The study was conducted at eight different sites in six counties in SC. The intervention consisted of a 3.5-hour evidence-based cancer education program in which a 3-hour component focused on general cancer knowledge and a 30-minute component focused on prostate cancer knowledge. Pre- and post-intervention surveys were administered immediately before and after the intervention. The maximum score for the 31-item cancer knowledge instrument was 31. Prostate cancer knowledge was assessed using a 10-item instrument, with a maximum score of 10. Perceived self-efficacy in patient-physician communication about cancer was measured by a 5-item scale with a maximum score of 5. We hypothesized that the intervention would result in increases in general cancer knowledge, prostate cancer knowledge, and perceived self-efficacy in patient-physician interaction (PEPPI). Results. The study sample consisted of 164 predominantly African American participants. One-hundred and twenty-five (78.6%) of the159 participants who provided data on race were African American, 19 (12.0%) were Caucasian, and 15 (9.4%) were Native American. The majority of the160 participants who reported age were ages 50+ years (62.5%). The majority of the 154 participants who reported income had an annual household income > = $40,000 (53.8%). The general cancer knowledge pre-test score had a mean of 26.2 with a standard deviation (SD) of 3.7 and mean post-intervention increase of 2.04 points (p<0.01). The mean pre-test prostate cancer knowledge score was 7.3 (SD 2.0). The mean increase in prostate cancer knowledge was 0.48 points (p<0.01). Due to a ceiling effect, most sites showed little increase PEPPI with the exception of the Native American site. Conclusions. General cancer knowledge scores and prostate cancer knowledge scores increased following the intervention. Future interventions could incorporate more intensive (i.e., repeated sessions) education programs.	Patients' Barriers to Receipt of Cancer Care, and Factors Associated with Needing More Assistance from a Patient Navigator Hendren S, Chin N, Fisher S, Winters P, Griggs J, Mohile S, Fiscella K Purpose: Racial minorities have poorer cancer survival in the United States. The purpose of this study is to better understand patients' barriers to cancer care, and to determine which patients have a greater need for the types of assistance provided by a patient navigator. Methods: Community health workers assisted newly-diagnosed breast and colorectal cancer patients during a randomized trial of patient navigation, and collected information about patients' barriers and time spent in navigation. Barriers to care were examined for all patients, and were compared between non-Hispanic white and minority patients. A multivariate model was constructed of factors associated with increased log Navigation Time, a measure of patients' need for assistance. Results: Patients' (n=103) most commonly-identified barriers to care included a lack of social support, insurance/financial concerns, and problems communicating with healthcare providers. Distribution of barriers differed between non-minority and minority patients, and minority patients faced a greater number of barriers (p=0.0001). In univariate analysis, log Navigation Time was associated with race/ethnicity, education, income, employment, insurance type, health literacy, marital status, language, and comorbidity. A multivariate model (R2=0.43) created using stepwise selection revealed the following factors to be associated with log Navigation Time: minority race/ethnicity (p=0.032), non-full-time employment (p=0.0004), unmarried status (p=0.085), university treatment center (0.0005), and months in study (p<0.0001). Conclusions: Newly-diagnosed cancer patients' most common barriers to care include lack of social support, insurance/financial concerns, and problems with healthcare communications. In this sample of patients, a greater need for assistance was associated with minority race/ethnicity, unmarried status, and unemployment. These data may help in the design and targeting of interventions to reduce cancer health disparities.

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"There are nine people in the exam room and I am the only one that is naked!" Navigational pathways to patient activation Rousseau, S., Humiston, S., Yosha, A., Winters, P., Loader, S., Luong, V., Schwartzbauer, B., Fiscella, K. PURPOSE:Patient navigation (PN), often provided by a trained lay heath care advisor, is designed to facilitate vulnerable patient's access to needed care. We designed a PN program that in addition to providing traditional navigation was also intended to activate patients to participate in their cancer treatment decision making. We conducted qualitative interviews to assess patients' experiences of activation in general and assess whether and how PN affected their activation. METHODS:Study population – Newly diagnosed breast and colorectal breast cancer patient randomized to either PN or usual care. Patients from the trial were contacted for an exit interview within 2 weeks of either completion of primary cancer treatment. Interview – Semi-structured questions focused on services offered by PNs were developed and refined by the research team. Interviews were conducted by phone in English or Spanish and transcribed verbatim. Analysis - Transcripts were coded with attention to patients' expressed needs, evidence of activation, and impact of PN. Through discussion, codes were collapsed into over-riding themes. RESULTS: We reached data saturation after analysis of 34 interviews: half randomized to navigation; 26 treated for BC (all female), 8 for CRC (4 female). Participants reported emotional, informational, and cognitive and demands more often than they reported logistical barriers. In many instances, these demands converged, undermining their activation. In other instances, pre-existing knowledge, ability to access information, insurance, financial means and natural social support systems mitigated these demands. Patients who lacked such resources reported that PN facilitated their active engagement in treatment by minimizing these demands. PNs did so though through a variety of inter-related pathways including direct or indirect provision of emotional support, provision of understandable information, coaching and prompting patients to ask their providers relevant questions. CONCLUSIONS: Many cancer patients report a confluence of overwhelming emotional, information, and/or cognitive demands. PN facilitates active engagement in treatment by mitigating these demands through multiple pathways.	Patient and clinician reports of the 5As in physical activity discussions: preliminary findings from an underserved population Carroll J, Winters P, Fiscella K, Morrow G, Epstein R. Purpose: The 5As, in which a clinician Asks about, Advises, Agrees upon, Assists and Arranges a plan for physical activity, is promising as a counseling strategy in primary care. Our purpose is to report preliminary findings of patient and clinician reports of 5As use in physical activity discussions in an underserved community health center organization. Methods: Two-group RCT of a clinician communication intervention currently underway to promote 5As discussions about physical activity in a primary care underserved population in Rochester, NY. Here, we report on 58 baseline audiorecorded patient-clinician visits followed by a patient survey asking about their recall of physical activity discussions with their primary care clinician. Clinicians also completed surveys asking about use of the 5As in physical activity discussions. Results: Patients had a mean of 42.6 years, and were 72% African American, 16 % Hispanic, and 14% Caucasian. Most (71%) had Medicaid insurance. Patients' average BMI was 32.6; weight-related comorbidities included diabetes (18%), hypertension (34%), depression (24%), and osteoarthritis or chronic pain (62%). Clinicians were family physicians (64%), nurse practitioners (18%) and physician assistants (18%), averaging 15 years work experience (range 2-33 years). Clinicians and patients reported similar communication gaps in 5As discussions. Clinicians reported difficulty with Assist and Arrange steps such as low confidence about negotiating a treatment plan (79%) and limited knowledge of community resources (75%). Patients also reported that their clinicians used Assist and Arrange skills less frequently (41%, and 18% respectively) compared the other As. Ninety-six percent (n=56) of patients were highly interested getting a physical activity guided plan or referral from their clinician to a community program for physical activity. Clinicians indicated a strong desire to learn more about referral options also (100%). Conclusions: Though clinicians reported Assist and Arrange to be challenging, both clinicians and patients were highly interested in incorporating Assist and Arrange into physical activity counseling through enhanced knowledge of accessible community resources for physical activity.

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Breast Health Behaviors in Immigrant Afghan Women in Northern California Shirazi, M. ,& Bloom, J. The purpose of this community -based participatory research (CBPR) qualitative pilot study was to provide a preliminary understanding of how Afghan women in Northern California view their breast health. The specific aims were: 1) To identify what the Afghan women believe to be their greatest concerns and barriers to breast health care; and 2) To identify Afghan women's knowledge and attitudes toward breast health care. The results were based on both demographic characteristics and in-depth semi-structured interviews conducted with 53 non-English speaking first generation immigrant Muslim Afghan women 40 years and older with no history of breast cancer living in Northern California. ATLAS.tL a qualitative software program was used for the management and evaluation of qualitative data. Codes and categories were systematically sorted, compared and contrasted until they were "saturated". Themes and concepts were used to compare within and across transcripts in the data set and across cases. Among the participants 28.3% had a clinical breast examination (CBE) less than 2 years ago, 30.2% more than two years ago, and 41% reported never having a CBE. Among the 65.9 % who reported having had a mammogram, more than half reported having had one more than the two years ago and almost 34% reported never having had a mammogram. Qualitative analysis of the findings generated a number of themes. The key themes were: a)Understanding and meaning of health and concept of prevention; b)Gender roles and family structure ;c) Religious and spiritual beliefs related to health ;d)Female modesty practices; e)Low level of knowledge about breast cancer, lack of awareness of breast cancer symptoms, risk factors, screening procedures and guidelines; f)Access barriers ; g) Health care provider needs ;h)Preferred sources of breast health information and education. In summary, the findings showed very low levels of knowledge and awareness about breast cancer and low utilization of screening and early detection examinations for breast cancer among Afghan immigrant women. The findings also suggest a significant need for a community based breast health education program that recognizes the unique social, cultural and religious dynamics of the Muslim Afghan community.	Improving non-adherence with mammography screening in low-income minority women Eng-Wong J., Harmon Martin S., London, L., Harrison T.M., Sheppard V.B. Background: Annual mammography reduces breast cancer mortality. Breast cancer screening is of particular importance in Washington D.C. which has the highest breast cancer mortality rate in the nation. We conducted a study to assess non-adherence with mammography in an area clinic serving under and uninsured women where mammograms are free to the patient. Methods: Women who were scheduled for a screening mammogram at the clinic and who did not keep their appointments were contacted by the study team for two separate evaluations. The first evaluation was a focus group conducted at a local community center to assess attitudes and barriers surrounding breast cancer screening. Ninety women were called to participate in the focus group. Participants received $40 gift cards. The second evaluation was a pilot telephone survey with both adherent and non-adherent women to inform a brief tailored telephone intervention. Results: Of the 90 women contacted, 27% had disconnected telephone numbers, 17% had wrong numbers and there were a higher number than expected of Spanish speaking only women. Of the 25 women reached by phone, 12 agreed to participate in a one time focus group, and 9 ultimately participated. The average age of focus group participants was 52.7 years. 56% of the women worked part or full time. Cited barriers to adherence included both logistic issues (hours of clinic operation, transportation) as well as health concerns (pain of the procedure, fear of the result). The telephone survey was conducted with 7 women and re-enforced the findings of the focus group. Conclusions: Reaching this population was difficult due to the transient nature of this population and language barriers. Improving access as well as health education may improve adherence rates. Results from these evaluations are currently being used to conduct a randomized controlled pilot trial to test the acceptability and effectiveness of a tailored phone reminder to improve mammography adherence and breast health self-efficacy.

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Understanding cancer control and prevention needs of Houston Gulf Coast 211 callers Fernandez M, Savas L, Bryan R, Jobe D Purpose: We collaborated with the 211/Texas United Way HELPLINE to determine the prevalence of cancer risk factors among callers and the feasibility of delivering cancer prevention and control information and referrals to increase breast, cervical, and colon cancer screening, HPV vaccination, and smoking cessation to socioeconomically disadvantaged 211 callers. Methods: Trained staff at the Houston 211 Texas Gulf Coast Region call center invited eligible callers to participate in a short survey assessing cancer screening and prevention behaviors during standard working hours. Inclusion criteria included 211 callers older than 18 years of age, English or Spanish speaking, consenting to participate, and not in crisis (e.g. disaster-related call or personal crisis). After determining callers' cancer screening and prevention needs, 211 staff immediately provided telephone referrals connecting callers to existing screening and prevention services. The assessment included questions about mammography, Pap and colorectal screening, HPV vaccination (including additional questions for parents of age-eligible girls) and personal information (e.g. demographic and health behaviors). Results: Among 781 callers offered participation, 56% agreed. A loss of 61 callers during call transfers resulted in a final sample size of 375. Results indicated 41% were older than 40 and 42% had no health insurance. The majority needed at least one cancer control service, predominantly in the areas of breast, cervical, and colorectal cancer screenings, as well as HPV vaccination. Specifically, 55% of women over 40 had not had a mammogram in over 2 years and 25% reported never having a mammogram. Similarly, 61% and 69% of callers over 50 had never had colonoscopy or FOBT, respectively. Participants also reported higher rates of smoking, lower rates of cervical cancer screening, and lower HPV vaccination compared to Texas and US rates. Among callers eligible for screening and prevention services, 65% agreed to receive referrals; 228 total referrals were given. Conclusions: Our feasibility study confirmed the majority of callers are medically underserved and revealed high need and receptiveness to participate and receive cancer prevention referrals to access local and affordable services.	Creating a Framework for Cancer Risk Stratification in Adults with Intellectual and other Developmental Disabilities Tyler C, Wilkinson J, Schramm S, Hallerberg G Purpose: To develop a conceptual framework for cancer risk stratification in adults with intellectual and other developmental disabilities (IDD). Methods: (1) Comprehensive review of health literature related to cancer in individuals with IDD and to cancer risk assessment in the general population; (2) Development of a modified conceptual framework of cancer risk assessment specific to adults with IDD; (3) Critique and modification of this framework via electronic discussion boards and list-serves comprising a learning collaborative of clinicians who conduct clinical research and provide health care to adults with IDD. Results: A four-domain model of cancer risk assessment was created: (1) Standard Risk Factors (cancer risk associated with age, gender, personal and family cancer history, behavioral risk factors); (2) Disability-specific Risks (cancer risk associated with the disabling condition; e.g., Down syndrome, cerebral palsy); (3) Co-morbidity-associated Risks (cancer risk associated with conditions commonly co-occurring in adults with IDD; e.g., chronic esophagitis, hepatitis B, Helicobacter pylori, celiac disease, pica); and (4) Health-care-associated Risks (cancer risks associated with diagnostic and therapeutic interventions commonly employed in individuals with IDD; e.g., repeated X-ray imaging, chronic anti-epileptic drug therapies.) Conclusions: Individualized cancer risk assessment in adults with intellectual and other developmental disabilities should incorporate risk factors uncommon in the general population. Our conceptual framework is immediately clinically applicable, while allowing for integration of emerging knowledge about cancer epidemiology relevant to persons with IDD.

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Maternal cultural barriers correlate with adolescent HPV vaccine use Carlos RC, Resnicow K, Dempsey AF, Patel D, Ruffin M, Dalton VA PURPOSE: Determine maternal cultural barriers in mothers who adhere to their own cancer preventive behavior that correlate with HPV vaccination in their adolescent daughters. METHODS: We conducted a cross-sectional mailed survey of women attending breast and cervical cancer screening at two diverse institutions; one serving mostly black (54.1%) urban inner-city population and another serving a mostly (87.5%) white suburban population. Surveys queried the adolescent daughter's HPV vaccination status (adolescent defined as 9-17 years old), general health beliefs; HPV-specific beliefs; knowledge, perceived benefits and barriers to HPV vaccination; perceived social/peer group attitudes about HPV vaccines. HPV vaccine completion (receipt of all three doses) is the primary outcome. Cultural differences between groups were assessed using linear regression. Correlates of the primary outcome were assessed using univariate logistic regression. RESULTS: 33% response rate with 68 black and 164 nonblack mothers. 6.8% of adolescent daughters of black mothers adhering to breast/cervical cancer screening completed HPV vaccination, compared 24.5% of nonblacks. In 11-12 year olds, for whom the CDC recommends universal vaccination, none of the daughters of black mothers completed HPV vaccination, compared to 17.5% in nonblacks. Black mothers more likely agreed with "Giving my daughter a new vaccine is like performing an experiment on her" (coefficient 0.38, p=0.038). Overall knowledge about HPV lagged in black mothers (mean knowledge index 0.587 (95%CI 0.531-0.643)) compared to nonblacks (0.73(95%CI 0.70-0.76)). Black mothers more likely to scored lower on the vaccine benefit scale (coef -0.31, p=0.007, α=0.76) and more likely scored higher on the peer group disapproval scale (coef 0.44, p=0.010, α=0.73). Belief about vaccine experimentation on her daughter decreased adolescent HPV vaccine use by black moms (OR 0.15, p=0.002). CONCLUSION: HPV vaccine completion in adolescent daughters of mothers who already participate in their own cancer preventive behavior remains suboptimal with significant racial disparity in vaccine use. Significant cultural differences correlate with decreased vaccine completion in daughters of black mothers.	FISH or IHC for HER2 Status? Analysis of Factors that Affect Choice of Test in Breast Cancer Care Ashok M., Griffin P., Halpern M. Purpose: To evaluate the impact of clinical and non-clinical factors on the choice of HER2 test (FISH - Fluorescence In Situ Hybridization - versus IHC - Immunohistochemistry) for women with breast cancer. Methods: Analyses were performed using electronic medical records data collected from six U.S. oncology practices (in Los Angeles, central Texas, south Texas, west Texas, South Dakota, and Washington state). The data were licensed and provided by the American Cancer Society. 1338 breast cancer patients tested for HER2 status were included for analysis. Multivariate logistic regression was used to model the impact of practice location, stage, diagnosis date, insurance, hormone status, and age on choice of HER2 test. Results:Diagnosis date (before or after 2001), practice location, and cancer T stage have statistically significant effects on choice of HER2 test. Patients seen in central Texas, south Texas and Los Angeles practices are significantly more likely to be tested with FISH than those seen in South Dakota. Patients who have Tis/T0 breast cancer are significantly less likely to be tested with FISH than those who with T3/T4 stages. Patients diagnosed prior to the publication of HER2 testing guidelines in 2001 are less likely to be tested with FISH than those diagnosed after 2001. Conclusion: Patients tested after the 2001 publication of updated HER2 testing guidelines were more likely to be tested with FISH; this may relate to the guideline recommendations that all breast cancer patients be tested for HER2 and the subsequent publication of studies advocating the use of FISH. Patients with Carcinoma In Situ (T0/Tis) are less likely to be tested with FISH, potentially due to the lack of available evidence regarding the value of HER2 testing for these individuals. Although the racial composition of the Los Angeles and three Texas sites is likely different from that of the South Dakota site, it is difficult to speculate whether this contributed to the observed differences in type of HER2 test used since race/ethnicity information was not available. Further studies on the relationships between patient race/ethnicity, physician training, and other potentially influential factors are needed to provide more clarity regarding decision making for HER2 testing.

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Primary Care Provider Attitudes Regarding Screening and Treatment of Late and Long Term Effects of Cancer Therapy Dittus K, Schaberg K, Allen S, O'Brien P The population of cancer survivors is growing and primary care providers (PCP's) appear willing to play an important role in follow up. However, it is unclear how comfortable PCPs are with surveillance and treatment of late and long term effects of cancer therapy. Therefore, our primary objective was to identify the confidence of PCPs to screen and treat late and long term effects of cancer therapy. Methods: A convenience sample of family practice physicians completed a self-administered survey. The survey used a 5-point Likert scale and focused on identifying confidence in screening for and treating of late and long term effects of cancer therapy. Late and long term effects included hot flashes, sexual dysfunction, fatigue, cognitive dysfunction, and weight gain. Potential medical problems related to cancer therapy such as lymphedema, osteopenia/osteoperosis and cardiovascular disease were also included. Descriptive statistics were completed. Results: The majority of respondents were female (59%), in practice for an average of 18 years and were members of group practices in rural communities. PCP's appeared comfortable screening and treating common disorders such as pain, depression/anxiety, heart disease and osteoporosis. In contrast, providers felt confident screening for lymphedema, fatigue, weight gain, sexual dysfunction, and cognitive dysfunction but only 35-45% felt confident in treating these late or long term effects. The largest discordance between confidence in screening and confidence in treating were for lymphedema (88% vs 46%) weight gain (78% vs 42%), and fatigue (71% vs 36%). Discussion: Primary care providers appear comfortable screening and treating several late or long term effects of cancer therapy. For other late and long term effect, such as lymphedema, fatigue, weight gain, sexual or cognitive dysfunction, PCPs feel able to identify problems but have less confidence in their ability to provide treatment. Study limitations include the use of a convenience sample from a specific geographic location. Interventions are needed to help primary care providers attain the confidence to identify and treat late and long term effects of cancer therapy.	Adolescent and Young Adult Cancer Survivors in the Cancer Research Network (CRN) Castellino SM, Altschuler A, Greene SM, Month S, Nekhlyudov L, Mertens AC, Geiger AM Purpose. Adolescents and young adults (AYA) with cancer face unique challenges related to their stage of physiological and psychosocial development, yet their diagnosis, treatment, and survivorship experiences remain poorly understood. To ascertain the potential of the HMO-based CRN to address these issues, we examined the characteristics of and available follow-up time among AYA diagnosed with cancer at two sites. Methods. Using the CRN's Virtual Data Warehouse cancer registry files, we identified all individuals aged 15 to 39 years diagnosed with their first primary invasive cancer from 1992 to 2007 at one site and 1996 to 2007 at the other. Next we extracted demographic, vital status, and tumor data, categorizing tumor type using the combined childhood (International Classification of Childhood Cancers, ICCC) and adult (International Classification of Diseases for Oncology, ICD-O3) classification approach from the SEER/COG 2006 AYA cancer epidemiology report. We used administrative data to calculate post-cancer enrollment through October 2009. To address potential variations in enrollment patterns and pediatric to adult care transitions, we stratified vital status and follow-up time by age. Results. We identified 7,121 AYA with cancer, of whom 4,424 (62%) were female and 2,820 (40%) were non-white. Common tumor types included breast (1,391, 20%); lymphoma (996, 14%); thyroid (858, 12%); genital (female, 798, 11%; male, 720, 10%); leukemia (327, 5%); and central nervous system (315, 4%). Among the 1,194 (17%) individuals diagnosed at ages 15 to 24 years, 955 (80%) remained alive; the median enrollment after diagnosis was 3.5 years (interquartile range [IQR] 1.5 to 6.6). Among the 5,927 (83%) individuals diagnosed at ages 25 to 39 years, 4,682 (79%) remained alive; the median enrollment after diagnosis was 4.2 years (IQR 1.7 to 8.0). Conclusions. Within two of 14 CRN sites we identified a sizable, racially diverse group of AYA cancer survivors who remained enrolled and thus could be followed for several years after diagnosis and compared to AYA without cancer. The CRN provides a unique setting in which to explore contemporary AYA cancer survivorship issues in the short-term, collect prospective long-term data, and test relevant interventions.

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Health behaviours, quality of life and interest in lifestyle advice among English colorectal cancer survivors. Grimmett C, Steptoe A and Wardle J. Purpose: Given the increasing population of cancer survivors worldwide, there is growing interest in the potential for behaviour change interventions to improve quality of life (QoL) and reduce risk of recurrence, new primary cancers and comorbid disease. This is the first study to examine health behaviours, QoL and interest in lifestyle interventions in an English cohort of colorectal cancer survivors (CRCS). Methods: Patients who had completed treatment for colorectal cancer within the past 5 years were identified from 5 London hospitals and sent an invitation to participate in a questionnaire study of lifestyle. Fruit and vegetable intake (F&V), physical activity (PA), smoking status and alcohol intake were assessed using standard questions. QoL was assessed with the EORTC-QLQ-C30. Participants were also asked about change in behaviours since diagnosis and interest in receiving lifestyle advice. Results: Out of a total of 1006 invitations, 495 (49%) questionnaires were returned. The majority (78%) reported < 5 sessions of moderate/vigorous PA per week, 58% ate < 5 servings of F&V a day, 6% were current smokers, and 7% drank more than the recommended 14 units (women) or 21 units (men). Associations with EORTC functioning subscales and fatigue were investigated using general linear models and symptom subscales with logistic regression, all controlling for age, sex, SES, comorbidities, recurrence, and time since diagnosis. Health behaviours were associated with fewer symptoms and better function on several subscales. Over half (52%) the respondents reported lower levels of PA since diagnosis compared with 7% who reported an increase. However, 47% had reduced their alcohol consumption and 37% of smokers had quit. Most respondents (70%) expressed interest in lifestyle advice. Conclusion: A high proportion of CRCS survivors have sub-optimal health behaviours and that this is associated with poorer QoL. Most respondents to this survey were interested in receiving lifestyle advice. These results highlight the need for behavioural interventions tailored to the needs of cancer survivors.	Adult Cancer Survivors' Knowledge and Attitudes about Cancer Follow-up Care Hudson S, Miller S, Hemler J, Lyle J Adult Cancer Survivors' Knowledge and Attitudes about Cancer Follow-up Care Hudson S, Miller S, Hemler J, Lyle J PURPOSE: To explore cancer survivors' knowledge of and expectations for extended cancer follow-up care. METHODS: Depth interviews were conducted with a purposive sample of early stage (I or II) breast and prostate cancer survivors stratified by treatment location and years since active treatment. Interviews lasted 45-90 minutes. They were audio-taped and transcribed. Data were analyzed using an immersion/crystallization approach which includes cycles of reading, summarizing and rereading the data. Interviews were coded independently by two researchers who used consensus to resolve discrepancies. RESULTS: Forty two interviews were conducted (24 Breast, 18 Prostate). Participants received treatment either at a comprehensive cancer center (54%) or a community hospital (46%). Length of survivorship ranged from 2-5 yrs from active treatment (33%), 6-9 yrs (36%) or 10+ yrs (31%). Key findings were that: (1) survivors had narrow definitions of follow-up that focused primarily on cancer surveillance and monitoring for second cancers; (2) oncology specialists were preferred over other care providers regardless of length of survivorship; and, (3) shared care models between primary care and oncology that transition patients from their treating oncologists were described as potentially necessary but not preferred. CONCLUSIONS: Prevention and detection of new and recurrent cancers, cancer surveillance, monitoring for late and long-term treatment effects and care coordination between providers are essential components of cancer follow-up care. However, survivors define cancer follow-up care as cancer surveillance and have little knowledge of late/long-term effects and low expectations for care coordination. These survivors' perspectives are enlightening regarding the educational needs and challenges facing patients throughout extended survivorship. Investigators designing research and interventions to enhance follow-up care need to address these expectations as they move forward. Supported by NCI grant K01 CA131500 and DOD grant DAMD17-01-1-0755.

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Cancer and Experience of Memory Problems in a Stratified Multi-stage Probability Sample of the Civilian Non-institutionalized U. Jean-Pierre, P., Winters, P., Mohile, S., Morrow, G., Fiscella, K. Background: Cancer can adversely affect cognitive functioning, especially in key domains of attention and memory. Yet, few epidemiological studies have examined the strength of the relationship between cancer and memory impairment. Methods: We assessed the effect of having cancer on reported experience of memory impairment using a stratified multi-stage probability sample of the civilian non-institutionalized U.S. population. The data were from NHANES. Odds ratios were calculated to describe the strength of the association between cancer and memory impairment. We adjusted our model for age, gender, race/ethnicity, education, and diabetes, family history of heart attack, coronary heart disease, stroke, hypertension, body mass index, total cholesterol, and C-reactive protein. Results: The sample included 12, 061 individuals (5,983 males, 6,078 females) age 40 years and older with varied educational achievement. Individuals with brain tumor were not included in the study. Participants were from diverse race/ethnicity: Blacks (n = 2398), White (n = 6467), Hispanic/Latino (n = 2811), and other race/multi-racial (n = 385). Blacks were 48% more likely to report experiencing memory/mental confusion (OR = 1.480, 95% CI = 1.197 to 1.831) as compared with individuals from other race/ethnicity. Adjusted odds ratio for experiencing memory/mental confusion that limit daily functioning for participants with cancer compared to those without cancer was OR = 1.356 (95% CI = 1.073 to 1.712). People with Cancer were 36% more likely to experience memory problems. Conclusions: Memory problem is an important side effect of cancer and its treatment. Strategies to reliably assess and control this problem for cancer patients are needed.	Occupational status of adult survivors of childhood cancer: A report from the Childhood Cancer Survivor Study Kirchhoff A, Krull K, Ness K, Park E, Friedman D, Armstrong G, Stovall M, Oeffinger K, Hudson M, Robison L, Leisenring W Purpose: To examine whether adult survivors from the Childhood Cancer Survivor Study (CCSS) were less likely to be employed in higher-paid, higher-skilled professional occupations than their siblings. Methods: Four mutually-exclusive occupational outcome groupings were created for participants ages ≥25 years: Professional, Non-Physical, Physical and Unemployed. Occupational groupings were based on the Standard Occupational Classification System and considered the skills, education and physical activity needed to perform specific jobs. Occupations among employed survivors (N=5070) and siblings (N=1799) were examined in multivariable generalized linear models. We also performed multinomial logistic regressions, expanding the sample to include unemployed (total sample survivors N=6671, siblings N=2129). Results: Employed survivors were working in Professional jobs less often than siblings (Relative Risk 0.92, 95% Confidence Interval [95% CI] 0.87-0.96). Report of jobs requiring physical work did not differ between survivors and siblings. Employed survivors who had a history of cranial radiation doses ≥18 Gy were approximately 50% less likely to be in Professional occupations (P<0.01) than survivors without cranial radiation. CNS tumor resection survivors (Odds Ratio 0.67, 95% CI 0.54-0.84) were less likely to hold Professional occupations. In the multinomial analyses that included unemployment as a potential outcome, a significantly lower proportion of female survivors reported Professional occupations (34%) compared to male survivors (43%) and female (47%) and male (52%) siblings (P<0.001). The proportion of survivors employed in Professional occupations with household income >$80,000 per year was lower than for siblings (survivors=38%, 95% CI 36%-40% vs. siblings=46%, 95% CI 44%-49%) after adjusting for demographics including education and marital status. Conclusions: Adult survivors of childhood cancer are less often employed in professional jobs than siblings. Survivors with certain treatment histories are at higher risk. These occupational disparities suggest that information on employment rights and provision of vocational assistance may be needed throughout adulthood for this population.

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Health-Related Quality of Life and Mediators of Inflammation in Breast Cancer Survivors Participating in Exercise L . Sprod, O. Palesh, L. Peppone, M. Janelsins, C. Heckler, G. Morrow, K. Mustian Breast cancer patients experience diminished health-related quality of life (HRQOL) because of side-effects from cancer and its treatments. Dysregulated inflammatory profiles are associated with increased side-effect severity. Exercise produces a self-regulating inflammatory response which may lead to reduced side-effects and improved HRQOL. The purpose of this pilot study was to explore the influence of Tai Chi Chuan (TCC) exercise or standard support therapy (ST) on HRQOL and the associations between changes in HRQOL and mediators of inflammation. Breast cancer survivors (N=21) within 30 months of completing standard cancer treatments were randomly assigned to TCC and ST for 12 weeks (3x's/wk; 60 min/session). Inflammatory markers (IGF, IL-8, IGFBP-1, IGFBP-3), glucose and cortisol were measured pre and post intervention. HRQOL and sub-domains [physical functioning (PF), mental health (MH), role limitations-physical (RLP), role limitations-emotional (RLE), social function (SF), vitality] were assessed via the MOS SF-36 at baseline (T1), 6 (T2) and 12 (T3) weeks. Independent t-tests using mean change scores (CS) and Pearson correlations were used to assess group differences in HRQOL and associations between changes in HRQOL and changes in inflammatory markers. Analyses revealed differences between groups in PF (T1-T3; CS TCC=1.9, CS ST=-.20; p<.05) and MH (T1-T2; CS TCC=2.70, CS ST=-.70; p<.05) with trends towards differences between groups in RLP (T2-T3; CS TCC=20, CS ST=-1.0; p<.10) and HRQOL (T1-T2; CS TCC=11.68, CS ST=3.16; p<.10). Analyses demonstrated an inverse relationship between changes in IGF and HRQOL (r=-.56;p<.05), RLP (r=-.68;p<.05), SF (r=-56;p<.05), and a trend for vitality (r=-.44;p<.10). Changes in IGFBP-1 were directly correlated with changes in RLP (r=.60;p<.05). Changes in cortisol were directly associated with changes RLP (r=.74;p<.05) and vitality (r=.46;p<.05). Changes in IL-8 were directly correlated with changes in RLE (r=.59;p<.05) and inversely correlated with changes in glucose (r=-.70;p<.05). TCC may improve HRQOL by regulating inflammatory responses associated with side-effects from cancer and its treatments. Future research is warranted. Funded by NCI R25CA102618, K07CA120025 and Sally Schindel Cone Fund	Life after Treatment for Breast Cancer: Experiences of African American Survivors and Caregivers Sterba KR, Zapka J, Heiney S, Ford ME, Dunmeyer E, Cartmell K, Baker M. Purpose: An understanding of culturally diverse cancer survivors' attitudes about the post-treatment period may inform interventions to improve follow-up care and quality of life. The purpose of this qualitative study was to explore the experiences of African American (AA) breast cancer survivors and their primary caregivers in the year following treatment. Methods: We recruited AA women with stage I-III breast cancer who completed treatment 6-18 months prior to the study (N=22, average age=57). Participants nominated their primary caregivers (N=21, average age=51) and dyad members completed separate telephone interviews to examine attitudes about treatment completion, expectations about follow-up, and the role of support. Content analysis was used to explore themes within and across dyads. Results: Survivors identified a variety of different caregivers; friends (38%), daughters (19%) and sisters (19%) were most commonly nominated. Four main themes were identified including 1) faith in God, 2) treatment completion as end of journey, 3) getting back to normal and 4) staying positive. Both survivor and caregiver cancer experiences were guided by a strong faith in God with a focus on trusting in God's healing. Caregivers emphasized prayer and helping patients to keep their faith and stay positive as the most common support strategies. Most participants framed the last day of treatment as a celebration and the "end of the journey"; few reported worries about the future and both patients and supporters emphasized the importance of "getting back to normal". While follow-up care was not highlighted directly, when prompted most acknowledged the importance of taking care of themselves after treatment. The most common advice for other dyads was to maintain a strong faith, be a good listener and keep a positive attitude. Conclusions: Faith played a major role in framing cancer survivorship attitudes in dyads. Remarkably few concerns about the future were reported and respondents instead focused on completing the journey. Future studies should examine how post-treatment attitudes relate to behavioral and quality of life outcomes. The development of culturally-specific interventions at the end of treatment may promote healthy behaviors and adherence to follow-up.

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Subclinical Cardiac Toxicity in Survivors of Hodgkin and Non-Hodgkin Lymphoma After Radiation and Anthracycline Chemotherapy K. Y. Usuki, K. Boudadi, O. Thomas, J. Adams, M. Milano, R. G. Schwartz, L. Constine Purpose: Assess subclinical cardiotoxicity contributions of modern techniques of mediastinal radiation (mRT) and anthracycline chemotherapy (ACT) in survivors of Hodgkin (HL) and Non-Hodgkin lymphoma (NHL). Methods: Since 8/91 we studied 100 asymptomatic HL and NHL survivors with RN ventriculographic scans 1.4 to 36.8 years after therapy (average 11.6, median 9.3). Scans were either multiple gated acquisition (MUGA) (34 pts) for measuring left ventricular (LV) ejection (EF) or ECG-gated single photon emission computed tomography (SPECT) (66 pts) for measuring end systolic volume index (ESVI ml/m2), end diastolic volume index (EDVI ml/m2), LVEF (%) and myocardial ischemia (%). The patient's most recent scan was analyzed. Treatment groups included: ACT (n=10), ACT/mRT (n= 35) and mRT (n= 55). Results:Mean LVEF differed among the treatment groups: ACT=52.9, ACT/mRT= 56.4 and mRT=59.7 (p =0.015). Mean ESVI differed, 39, 34, 25 respectively (p = 0.005). Mean EDVI differed, 75, 72, 59 respectively (p = 0.009). Mean percent ischemia did not significantly differ, 8.3, 2.8, 1.4 (p = 0.10). Since blocking sections of the heart is often employed in these treatments, univariate linear regression tested mRT dose to each cardiac region in addition to the maximum mRT dose and ACT dose. ACT dose was associated with reduced LVEF (p=.04), increased ESVI (p=.002), increased EDVI (.005) and no association with ischemia. XRT dose regardless of region showed no correlation with change in cardiac function on univariate analysis. Multivariate analysis separately tested the maximum mRT dose and mRT dose to each cardiac region with ACT dose in the ACT/mRT patients. The four separate analyses showed increasing ACT dose was significantly associated with an increased EDVI and ESVI. Regional dose changes of mRT did not affect outcome variables by multivariate analysis. Conclusion: Radionuclide perfusion and function variables identify subclinical cardiac abnormalities in survivors of HL and NHL treated with ACT and / or mRT regimens, and volume indices appear most affected by ACT. Modern mRT, which sequentially protects critical areas of the heart as dose increases, is less correlated with cardiotoxicity than ACT dose as determined by LVEF, ESVI, EDVI and myocardial ischemia.	Cancer Screening among Long-term Survivors of Breast, Prostate, Colorectal, and Gynecologic Cancers K. Weaver, C. Alfano, C. Leach, J. Rowland, and N. Aziz Purpose: To examine the prevalence and predictors of cancer screening among long term cancer survivors Methods: We examined cancer screening among 1582 long-term (5 and 10 year) survivors of breast (BC), prostate (PC), colorectal (CRC), and gynecologic (GynC) cancers recruited from California NCI SEER cancer registries. The majority of the cancer survivors [32.6% < 65 years; 37.8% White, 14.0% Hispanic, 23.9% African-American, 22.6% Asian/PI; 37.5% male] were diagnosed with early stage cancers (68.2% AJCC stages 0, 1, or II). Age, income, race/ethnicity, marital status, cancer worry, and cancer screening tests [mammogram, Pap, and PSA] within the past two years were assessed via self-report. Cancer stage was abstracted from registry data. Results: Recent PSA testing was more common in PC survivors (85.5%) compared to male CRC survivors (50.2%) [X2= 11.97, p <.001]. Recent mammography was more common in female BC survivors (86.8%), than female CRC (74.5%) or GynC survivors (78.8%) [X2= 12.71, p<.001]. There were no significant differences in Pap testing by cancer site (p=.11) with 78.3% of women reporting recent testing. In general, multivariate models revealed few significant predictors of no recent cancer screening. Among men with PC, Asian/PI males were more likely than non-Hispanic, whites (OR= 4.32, 95% CI= 1.42-13.19) to report no recent PSA screening and greater cancer worry was associated with decreased odds of no screening (b= -.44, p=.05). Among female CRC and GynC cancer survivors, middle aged survivors (50-64) were less likely to not be screened than younger survivors (<50)[OR= 0.36, 95% CI .15-.88] and increased cancer worry (b= .27, p<.05) was significantly associated with not reporting a recent mammogram. There were no significant predictors of PSA testing in CRC survivors, mammography in BC survivors, or Pap testing. Conclusions: Rates of cancer screening are high among cancer survivors, with the highest rates for primary surveillance tests. In this study, traditional demographic predictors of cancer screening were generally not associated with screening in long-term survivors, complicating the identification of survivors who are not being screened. Cancer-related worry was differentially associated with screening in male and female survivors.

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Skin cancer risk reducing behaviors in melanoma patients and family members with a family history of melanoma Loescher, L; Harris, R; Zhou, M; Hiscox, H. Purpose: To examine skin cancer risk-reducing behaviors in melanoma patients with a family history of melanoma and their family members. Methods: We recruited adult melanoma patients with at least 2 cases of melanoma in their family from a cutaneous oncology clinic. Patients selected a family member for participation. All participants completed a self-report survey containing scales on sun protection behavior (sunscreen use, sun avoidance) and skin examination (clinical and self-examination [SSE]). We compared group responses using t-tests, Wilcoxon rank-sum tests or chi-square tests. Results: 136 melanoma patients and 95 family members completed the survey. Mean age was 59 years (patients) and 54 years (family members). Participants were mostly white and well educated. Sun protection behavior (alpha = 0.91): Patients and family members did not differ in frequency of sunscreen application to specific body areas (40% applied most of the time). They also were similar in selected sunscreen sun protection factor (30+) and sometimes avoiding the sun during peak hours of intensity. Patients reported higher use of clothing that covered their arms (p=0.01) and legs (p=0.03) and a wide-brimmed hat (p=0.03) than family members. Skin examination behavior: Patients and family members did not differ in SSE (examination of 7 specific body areas) (p=0.07), which tended not to be performed by 58%-70% of participants. More patients than family members reported a clinical skin examination within past year (p <0.001). Conclusions: Few studies have targeted risk-reducing behaviors in families with a history of melanoma, which is worrisome given that these patients and family members have increased risk of melanoma. Our results suggest that melanoma patients and family members tend to engage in appropriate sun protection behaviors, with patients being more vigilant with use of sun protective clothing. Of concern is the underperformance of SSE in both groups; healthcare providers need to strongly target SSE education for this high-risk population. Low performance of SSE by melanoma patients may be offset by their higher rates of clinical skin examination. Future research with larger sample sizes and sufficient controls is needed.	Body composition, physical activity, and telomere length in breast cancer survivors: Results from a randomized controlled trial Arem H, Lu L, Yu H, Irwin M. Introduction: Physical activity (PA) has been associated with a reduced risk of death in women with breast cancer. The length of the telomere, an essential structure at chromosomal ends that maintains genomic integrity, has been associated with breast cancer risk, mortality and body composition. However, its association with PA is unknown. We examined baseline body composition and prognostic factors in relation to telomere length, and assessed the effect of 6-months of aerobic exercise vs. usual care on telomere length in breast cancer survivors enrolled in The Yale Exercise and Survivorship Study. Methods: Seventy-five postmenopausal breast cancer survivors were randomly assigned to 150 min/wk of moderate-intensity aerobic exercise (n = 37) or usual care (n = 38). Measured height and weight, a dual energy x-ray absorptiometry scan, and a fasting blood sample were collected at baseline and at 6 months. We used quantitative real-time PCR to analyze relative telomere length [Telomere/ single copy gene of albumin (T/S)] in peripheral white blood cells. Results: At baseline, body composition was positively associated with T/S (BMI, r=0.23, p=0.055; waist circumference, r=0.22, p=0.069), whereas PA was inversely associated with T/S (moderate- to vigorous-intensity recreational MET hr/wk measured via a 7-day PA Log, r=-0.17, p=0.16; steps/day measured via 7-day Pedometer log, r=-0.15, p=0.21). Multiple linear regression of T/S indicated that BMI was a significant predictor of T/S (p=0.004), and that percent body fat was marginally significant (p=.066). Six month measurements showed that T/S increased by 8% among the usual care group (0.67 (-1.92, 0.59), but decreased 22% among the exercise group (-1.77 (-0.024, -3.56), p = .031 for difference in group means. Conclusions: Our data show an association between body composition and T/S, and a 22% shortening of T/S with 6 months of exercise. Studies of T/S shortening as measured in breast tissue have shown an increased risk of certain cancers, but studies of T/S shortening as measured in leukocytes have shown a decreased risk. Further research is needed to understand the role of T/S, measured in leukocytes and breast tissue, in relation to body composition and PA in breast cancer survivors.

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The roles of complementary and alternative medicine among long-term breast cancer survivors Ma H., Carpenter C., Sullivan-Halley J., Bernstein L. Introduction: It is estimated that over 2.5 million women in the US are living with breast cancer. Seeking ways to improve their outcomes or improve their health-related quality of life (QOL), these survivors may use complementary and alternative medicine (CAM). Few data exist on outcomes related to CAM use among long-term (>10 year) breast cancer survivors. Methods: In 1998-1999, we collected CAM use and QOL information during interviews with 371 Los Angeles white women who participated in a case-control study of breast cancer among women 40 years or younger and who had survived more than 10 years after their breast cancer diagnosis. CAM use was defined as having used any herbal/alternative remedies or traditional/fork remedies during the 6 months prior to interview. QOL was measured using the Medical Outcomes Study Form 36 (SF-36) questionnaire. These breast cancer patients were followed for survival from 1998-1999 through 2007 by linking with the Los Angeles County Cancer Surveillance Program and the National Death Index. In 2002-2004, we conducted a follow-up telephone interview on QOL among 299 surviving women who had participated in our previous interview. We used multivariable Cox proportional hazards methods to estimate relative risks (RR) and 95% confidence intervals (95% CI) for mortality and applied multiple linear regression models to compare average SF-36 health summary scale change score (Survey2-Survey1) between CAM users and non-users. Models adjusted for ethnicity, age and cancer stage at diagnosis, type of treatments, type of surgery, post-diagnosis cancer-related conditions and medical conditions, interval between diagnosis and initial CAM use survey, yearly income at initial survey, and corresponding SF-36 scores at initial survey when comparing change scores. Results: CAM use was not statistically significant associated with either all-cause or breast cancer mortality (RR=1.41, 95% CI= 0.67-2.95; RR=2.10, 95% CI=0.82-5.40), although risk estimates were greater than 1.0. Both CAM users' and non-users' emotional health summary scales increased similarly (1.5 vs. 3.1, P=0.17), but CAM users' physical health summary scale decreased more than that of non-users' (-5.7 vs. -3.3, P=0.02) between our two surveys.	Temporal trends in contralateral breast cancer among U.S. women, 1973-2006. Nichols HB, Berrington de Gonzalez A, Rosenberg PS, Lacey JV, Anderson WF Among breast cancer survivors, developing a second breast cancer—most of which occur in the opposite breast–is the most frequent second-cancer event. Secular trends in contralateral breast cancer are not as well established as those for first breast cancers. Using the National Cancer Institute's Surveillance, Epidemiology, and End Results 9-Registries Database (1973-2006), we examined incidence trends for invasive contralateral breast cancer using standard descriptive techniques supplemented with age-period-cohort models. Contralateral breast cancer was defined as an invasive second breast cancer diagnosed on the opposite side more than 12 months after a first invasive breast cancer diagnosis. Data from 1990-2006 were stratified by the estrogen receptor (ER) status of the initial breast cancer diagnosis. Over an average follow-up of 7.6 years, 13,762 cases of contralateral breast cancer were identified among 398,555 women. Age-standardized incidence rates (ASR) for contralateral breast cancer declined during 1973-2006 with an estimated annual percentage change (EAPC) of -2.0% per year (95% CI: -2.9, -1.12); the steepest decline was observed after 1989. For the period where ER status was available (1990-2006), the EAPC for contralateral breast cancer after a first ER-positive breast cancer was -4.7% per year (95% CI: -6.5, -2.8). In contrast, among women with an initial ER-negative breast cancer the EAPC was 1.2 (95% CI: -0.9, 3.3). We found a strong decline in contralateral breast cancer incidence rates after an ER-positive breast cancer but not after an ER-negative cancer, which is likely due to the widespread introduction of tamoxifen and other adjuvant breast cancer treatments in the late 1980s.

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No association between lung tumor HGF or c-Met immunohistochemistry to lung cancer patient survival Song, J., Weissfeld, J., Diergaarde, B., Stabile, L., Land, S., Bowser, R., Dacic, S., and Siegfried, J. Background: Previous studies show association between the lung tumor expression of hepatocyte growth factor (HGF) and factors (smoking and advanced stage) related to lung cancer outcome. These observations motivate direct study of lung cancer survival associations with the lung tumor expression of HGF and its receptor (cMet). Methods: We used immunohistochemistry (IHC) to quantify HGF and cMet expression in primary lung tumor tissue from n=180 patients, including n=115 represented as multiple cores on tissue microarrays (TMA) and n=65 represented as single whole tissue sections. We used data source-specific (TMA vs. whole section) Allred score median cutpoints to distinguish high expression from low expression. To identify baseline factors related to HGF and cMet expression, we used a generalized linear mixed model (GLIMMIX) approach, which controlled for data source (TMA vs. whole section) and accounted for the correlated nature of the TMA core-level data. We used Cox (proportional hazards) regression to evaluate survival associations with expression. All models include factors for age, smoking, stage, sex, race, and histology. Results: 43.8% and 44.1% of lung tumor samples showed high HGF and cMet expression, respectively. GLIMMIX showed borderline significant associations between high HGF expression and stage [Odds Ratios (OR) relative to stage IA: stage IB 0.75 (95% confidence interval 0.31-1.77), stage II 1.52 (95% CI 0.55-4.17), and stage III/IV 0.46 (95% CI 0.20-1.06), Pglobal(Type III)=0.05] and between high HGF expression and smoking [(OR relative to never smoker: active smoker 2.65 (95% CI 0.76-9.24) and ex-smoker 3.48 (95% CI 1.00-12.13), Pglobal(Type III)==0.14]. Neither HGF [Hazard Ratio (HR) 0.89, (95% CI 0.59-1.34)] nor c-Met expression [HR 1.03, (95% CI 0.68-1.55)] predicted survival. Associations between high expression and survival were statistically similar in men and women. Conclusion: HGF immunochemical expression in lung tumor correlates positively with smoking (an observation consistent with previous reports) and negatively with more advanced cancer stage (an observation contrary to previous reports). After accounting for stage and other factors, neither HGF nor cMet expression predicted survival.	Use of antidepressants and NSAIDs in relation to mortality in long-term breast cancer survivors KJ Wernli, PA Newcomb, JM Hampton, A Trentham-Dietz Purpose: The aim of this study was to assess the post-diagnosis use of antidepressants and non-steroidal anti-inflammatory drugs (NSAIDs) among long-term breast cancer survivors in relation to all-cause, breast cancer, and cardiovascular disease (CVD) mortality, the leading cause of mortality in the US. These two types of medications are among the most commonly consumed medications in the US. Methods: A cohort of 3,058 breast cancer survivors, who previously participated in a series of case-control studies diagnosed between 1988-1999 in Wisconsin, was followed for subsequent mortality through December 31, 2006 (mean follow-up 7.2 years, range 1.0-8.6 years). Cause and date of death were ascertained through the National Death Index. Breast cancer survivors completed a self-administered questionnaire regarding post-diagnosis use of medications, including antidepressants and NSAIDs. We used multivariable Cox proportional hazards modeling to estimate hazard ratios and 95% confidence intervals. Results: We identified 463 deaths due to all-causes, 163 due to breast cancer, and 93 due to cardiovascular disease during follow-up. Among women who had used any antidepressant after a breast cancer diagnosis, there was an increased risk of all-cause (adjusted HR=1.45, 95% CI 1.04-2.01) and CVD mortality (HR=2.42, 95% CI 1.21-4.83), but not breast cancer mortality (HR=0.99, 95% CI 0.58-1.70). The use of NSAIDs after diagnosis was not associated with all-cause (HR=0.90, 95% CI 0.69-1.18), CVD (HR=0.95, 95% CI 0.53-1.71), or breast cancer mortality (HR=0.71, 95% CI 0.43-1.17). Conclusions: The use of antidepressants may increase risk of all-cause and CVD mortality, but was not associated with breast cancer mortality among long-term breast cancer survivors in our study.

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BMI and Physical Activity in Early Adulthood and Ovarian Cancer Prognosis Zhou Y, Irwin M, Risch H Ovarian cancer is the leading cause of death from gynecological cancers worldwide. Few studies have examined associations between physical activity and ovarian cancer survival. We conducted a prospective cohort study of 408 women with newly diagnosed epithelial ovarian cancer, who participated in a case-control study (between 1998 and 2003) examining lifestyle and genetic factors and ovarian cancer risk. The purpose of this cohort study was to investigate the association between physical activity during the 20s and ovarian cancer survival. Eligible women completed interview-administered questionnaires, on average 10 months post-diagnosis, assessing levels of moderate- to vigorous-intensity recreational physical activity, weight history and other ovarian cancer risk factors. Women were followed for 5 years after diagnosis or until death whichever came first. The primary outcome measured was ovarian cancer deaths. The primary exposures were physical activity during the 20s, body mass index (BMI) during the 20s and the combination of BMI and physical activity during the 20s. Physical activity was dichotomized by the recommended 7.5 MET hrs/week (categorizing ≥7.5 MET hrs/week as high and <7.5 MET hrs/week as low) and BMI was categorized as high (≥25 kg/m2) and low (<25 kg/m2). Cox proportional hazard regression was used to estimate associations of each exposure with death, while adjusting for prognostic and reproductive covariates. The five-year survival rate was 59%. After adjustment, BMI during the 20s was strongly associated with a greater than two-fold increased risk of death (HR=2.25, P=0.004, comparing women with BMI≥25 to women with BMI<25). There was a suggestion of decreased risk of death with at least 7.5 MET hrs/week of activity during the 20s (HR=0.70, P=0.113, comparing women with high activity to women with low activity). When BMI and physical activity during the 20s were examined together, there was a 51% decreased risk of death (HR=0.49, P=0.058) in women with low BMI and high activity compared to women with high BMI and low activity). Our results suggest that BMI during the 20s is associated with ovarian cancer death and indicate that further research is required to explore the relationship between physical activity and ovarian cancer death.	A Qualitative Examination of Communication Issue s among African American Couples Surviving Prostate Cancer E. August, B. Rivers, C. Gwede, G. Quinn Purpose: The aim of this study was to qualitatively explore communication issues among African American prostate cancer survivors and their spouses in the psychosocial adjustment to diagnosis and treatment. This study is part of a larger investigation of the salient psychosocial issues within this population. Methods: Twelve African American prostate cancer survivors and their spouses were recruited to participate in individual, semi-structured interviews. The interviews assessed couples' experiences with psychosocial adjustment and perceptions of communication following treatment for prostate cancer. The data were analyzed using a combination of the constant comparison method and content analysis and was facilitated through the use of Atlas.ti software. Results: In this qualitative study of couples surviving prostate cancer, a "communication triangle" emerged, consisting of the healthcare provider, the prostate cancer survivor, and his spouse. While the communication about treatment options and health outcomes between the survivor and the healthcare provider was relatively strong, communication between the provider and the spouse and between the survivor and the spouse were often limited. The men reported that discussions regarding their feelings about cancer diagnosis and treatment with their spouse were rare. However, all of the spouses reported a desire to communicate with their husbands about their experiences. Furthermore, this lack of information among the spouses often resulted in emotional distress, as well as uncertainty regarding their ability to adequately care for and support their husbands as they were undergoing treatment for prostate cancer. Conclusions: Cancer patients and their spouses may have differing perceptions regarding quality of life (QOL) and the impact of communication on survivorship. This study points to the need for further research and intervention development to address the domain of communication with a goal to improve QOL and psychosocial adjustment to prostate cancer diagnosis and treatment. The findings will assist in the development and testing of culturally appropriate educational resources and interventions for African American prostate cancer survivors and their spouses.

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Cigarette Smoke-Related Metabolome Hsu, PC. Bourbeau, M. Cheema, A. Ressom, HW. Shields, PG. Given recent FDA legislation to mandate cigarette performance standards and evaluate health claims for modified tobacco products, and separately the fact that most persons with lung cancer are former smokers, biomarkers of lung cancer risk are needed. Yet, today there are only a few biomarkers of exposure and none that are validated for lung cancer risk. This study will identify new biomarkers though metabolomics, a powerful method to identify numerous metabolites and profiles. It will utilize a previously conducted epidemiology study of well-characterized smokers. We hypothesize that the number of cigarettes, smoking topography, inhalation and nicotine metabolism exert their influence on phenotype through global metabolome. Using UPLC-TOFMS, we analyzed global metabolomic profiles of 298 smokers' plasma and evaluated whether number of cigarettes per day, puff topography, total puff volume per day mediate the influence of global metabolomic profiles. We also evaluated whether smoking topography and inhalation, as measured by a nicotine boost and CO boost, and whether nicotine metabolism is associated with smokers' global metabolome. For the above Aims, subset analyses by gender and race will be performed to identify and quantify the metabolites of interests. These subjects completed an extensive interview and smoked two cigarettes in a smoking laboratory. Blood and CO measurements were collected before and after each cigarette. Plasma is available for metabolomic profiling. The data obtained will be subject to multivariate data analyses. Metabolomic profiling and the identification of new metabolites have the potential to identify new biomarkers of cigarette smoke exposure and lung cancer risk. Metabolites of both carcinogens and endogenous cellular pathways can be simultaneously determined. New biomarkers are needed to assist in the evaluation of tobacco products and performance standards, as well as for identifying former smokers most at risk of lung cancer. The biomarkers identified from this study can be validated and applied to other studies confirming the relationship to smoke exposure and then in cohort studies of lung cancer risk.	Efficiency and cost effectiveness of recruitment methods for male Latino smokers Graham, A., Lopez-Class, M., Mueller, N., Mota, G., Mandelblatt, J Purpose: There will be more than 13 million Latino smokers by 2050 if smoking rates remain unchecked, making tobacco cessation among Latinos – especially men – a public health priority. There is limited information about the most effective recruitment strategies for Latino smokers, making the development and evaluation of cessation interventions challenging. The purpose of this study was to systematically test various research recruitment strategies to identify the most effective and cost efficient approach for Latino male smokers. Methods: During proactive recruitment, a male Latino lay recruiter approached men at professional and community-based organizations ("formal recruitment") and approached smoking men at supermarkets, convenience stores, and other gathering places ("informal recruitment"). During reactive recruitment, newspaper ads, radio ads, and flyers instructed interested individuals to contact the study via a toll-free number. Eligible and consented participants completed a 20-minute assessment. Total costs, cost per enrollee, and incremental cost effectiveness were calculated for each strategy. Results: During the 11-month study, 1006 individuals were recruited: 294 men (81% eligible) were enrolled and assessed. Participants reported low levels of income, education, and acculturation. Proactive recruitment yielded more participants than reactive recruitment (256 vs. 38) but individuals were less likely to be eligible (34.0% vs. 68.9%; OR=4.30, 95% CI= 2.46 to 7.51) and to enroll (27.4% vs. 62.3%; OR=4.45, 95% CI 2.56 to 7.61). Interestingly, proactive recruitment in informal settings was comparable in eligibility and enrollment efficiency to reactive approaches and was the most cost effective recruitment strategy approach ($17.64/enrolled participant). Cost/enrollee was significantly lower in the proactive compared to the reactive phase ($18.30 vs. $182.24). Conclusions: Proactively approaching Latino male smokers in informal locations was one of the most efficient recruitment strategies, and yielded the lowest cost per enrolled smoker. The information gained in this study will assist tobacco researchers in recruiting Latino men into smoking cessation clinical trials in a cost effective and timely manner.

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Gastrointestinal Cancers Arising in Urinary Tract Conduits Moyer GC, Grubb RL, Johnson FE Purpose: Isolated case reports of primary intestinal carcinomas in urinary conduits have been published recently. We provide evidence that an epidemic of such cancers in this small but presumably high-risk population may be emerging. Methods: Focused literature analysis and case report. Results: About 70,000 people in the US are diagnosed with bladder carcinoma each year, of which about 25% are initially muscle-invasive. About 75% of those with invasive cancer undergo cystectomy, and about 25% of these have a neobladder created to manage urine elimination. Colon is used for the neobladder in about half of these patients and ileum is used in about half. The strategy of using a neobladder originated about 25 years ago and has been in common use in community urological practice for about 15 years. These estimates suggest that > 1,500 patients, most of whom abuse tobacco, receive a neobladder each year in the US. Carcinogens in urine from tobacco products are a major cause of urothelial cancers. Carcinogens in intestinal contents from tobacco products are a minor cause of intestinal cancers. It has been estimated that urothelial carcinomas in tobacco smokers typically develop after about 20 years of exposure to carcinogen-laden urine. We encountered a 48 year old male smoker who had had a radical cystectomy for transitional cell carcinoma of the bladder in 1987. Urinary flow was established using a colonic neobladder. He continued to smoke. In 2009 he was found to have microhematuria. Cystoscopy revealed an ulcerated epithelial mass in the neobladder; biopsy showed colonic carcinoma. Excision of the neobladder and lymphadenectomy were performed, with creation of a conventional ileal conduit. The patient remains well. Conclusion: The urine of tobacco abusers contains significant concentrations of known carcinogens. Tobacco abusers with neobladders (particularly those utilizing colon rather than ileum) are likely to be at high risk of a second primary carcinoma in the neobladder. This population is likely to benefit from surveillance measures aimed at detecting such cancers. We plan to quantify the risk in this vulnerable group using population-based methods.	Eliminating Secondhand Smoke Exposure from Mexican-American Households: Outcomes from Project CLEAN AIR—SAFE AIR (CASA) Prokhorov AV, Gatus L, Wilkinson A, Marani S, Bondy M. Project CASA was designed to reduce exposure to secondhand smoke (SHS) among Mexican Americans (MA) – a rapidly growing population segment in the USA. Methods: The study was a randomized control trial nested in a MA cohort study. Ninety-one households were randomized into two conditions: [a] fotonovela-based Experimental Intervention (EI) promoting tobacco-free indoor policy and [b] pamphlet-based Standard Care (SC). Evaluations were at baseline, 6 and 12 months post intervention. One hundred and sixty seven participants completed the baseline assessments (85 in EI and 82 in SC). Results: Objective ambient nicotine data were collected from 89 households at baseline, 77 at 6 months and 59 at 12 months; 119 participants completed 6 and 12 month surveys. Mean age of respondents was 39 years (SD=12) and 70% were female. No baseline group differences were found on age, gender, smoking intensity and SHS knowledge. The primary outcome was based on objective monitoring of SHS (measured in 2 “high-traffic” rooms over 7 days). Baseline nicotine levels did not differ significantly between conditions. In the maximum exposure room longitudinal comparisons revealed a significant time-by-condition effect ($F = 5.1$; $p < 0.01$) with a decrease in the mean ambient level in the EI condition from baseline to 6 and 12 month (1.31 µg/m3 to .43 µg/m3 to .24 µg/m3, $p<.01$) compared to SC (.34 µg/m3 to .10 µg/m3 to .11 µg/m3, p=ns). Subjective SHS exposure was based on indoor smoking information provided by primary informants from households. At baseline all households allowed smoking indoors. Longitudinal comparisons revealed a significant main effect for time ($F= 53.1$, $p<.001$) with percent of households that banned smoking at 12 month increasing significantly; higher in EI compared to SC (73% vs. 56%). There was a higher increase in SHS knowledge in EI from baseline to 12 months compared to SC with a significant time-by-condition effect ($F = 6.0$; $p < 0.01$). Conclusion: Culturally relevant fotonovelas have potential to decrease SHS-related health problems in MA households. Long-term results revealed a promising impact on objectively and subjectively measured SHS exposure and knowledge about this hazardous condition, resulting in greater numbers of SHS-free households.

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Associations between polymorphisms of NER pathway and nine smoking related cancer sites Yi R. Wang The participation of nucleotide excision repair pathway (NER) in DNA repair may have particular importance because of its critical role in recovering DNA damages by removing complex bulky adducts. We conducted a pooled case-control study involving three populations: Los Angeles (LA) County, Memorial Sloan Kettering Cancer Center (MSKCC), and TaiXing, China (TaiXing), trying to reveal the association of NER polymorphisms with the risk of smoking-related cancer. We also investigated their possible effect modification by tobacco smoking. Our study found that XPG/ERCC5 rs1047768 and XPG/ERCC5 rs2227869 C/G are likely to be associated with an increase in smoking-related cancer risk. Haplotypes in XPD/ERCC2, XPG/ERCC5 and ERCC6 are also found to be associated with smoking-related cancer risk. For individual cancer sites, ERCC6 rs2228529 is found to be associated with increased lung cancer risk and its effect appears to be strongly modified by tobacco smoking. Associations are also detected for XPC rs2470352 and XPG/ERCC5 rs2227869 with oropharynx cancer, XPD/ERCC2 rs238406 and XPG/ERCC5 rs17655 with bladder cancer, and XPG/ERCC5 rs2227869 C/G with stomach cancer, with no apparent effect modification by tobacco smoking.	Neighborhood Socio-Economic Status and Individual Smoking Status Interact to Predict PAH-DNA Adduct Levels in Prostate Tissue Richards C, Rybicki B, Tang D, Neslund-Dudas C, Rundle A Background: We extend our work studying environmental and genetic determinants of polycyclic aromatic hydrocarbon (PAH) DNA adducts in radical prostatectomy specimens, to consider cross-level interactions between cigarette smoking and indicators of neighborhood level socio-economic status. Methods: PAH-DNA adducts were measured in 397 prostatectomy specimens from the Henry Ford Health System using immunohistochemistry with image analysis to measure staining intensity in optical density units. Subjects' home addresses were geo-coded to Census tracts and linked to 2000 Census data. Tracts were classified for educational attainment using the median value across tracts for the percentage of residents who graduated college. GEE models, accounting for clustering at the Census tract level, were used to determine if smoking was associated with adduct levels in tumor tissue by strata of neighborhood educational attainment. Analyses adjusted for race, age, tumor volume, primary Gleason grade and PSA level at diagnosis. Results: Among those living in tracts with high educational attainment, smoking status predicted adduct levels. The covariate adjusted mean staining intensity for current smokers was 0.17 (95% CI=0.15-0.19), for ex-smokers was 0.16 (95% CI=0.15-0.17) and never-smokers was 0.13 (95% CI=0.12-0.14). For those living in tracts with low educational attainment there was no significant difference in adduct levels by smoking status, the covariate adjusted mean staining intensity for current smokers was 0.16 (95% CI=0.14-0.18), for ex-smokers was 0.15 (95% CI=0.14-0.16) and for never smokers was 0.16 (95% CI=0.15-0.17). The p-value for the interaction term between smoking status and tract level educational attainment was 0.02. Further adjustment for individual level education and for tract median household income did not alter these results. Conclusion: The results suggest that neighborhood context modifies the relationship between individual smoking status and PAH-DNA adduct levels in prostate tissue; smoking is only predictive of adduct levels in higher SES tracts. The spatial segregation of income groups in and around Detroit suggests that indicators of lower neighborhood SES serve as a proxy for other environmental sources of PAH.

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Racial and ethnic differences in the age of smoking initiation Onicescu G.,Hill E.,Carpenter M.,Ford M.,Alberg A. Objective: To compare the age of smoking initiation among different racial/ethnic groups: Non Hispanics (NH) whites, NH blacks, NH American Indian and Alaskan natives (AIANs), NH Asians, NH multiple races and Hispanics. Methods: We used data from the 2007 National Health Interview Survey. Smoking initiation was based on self-reported age of first regular use. Statistical analyses were conducted using SUDAAN SAS callable version 9. Results: Based on a linear regression model adjusting for gender and region of country, the estimated age of initiation was, in ascending order: 15.6 years (95% CI= 13.9 to - 17.2) for NH AIANs, 16.4 (95% CI=15.5 to - 17.3) for NH multiracial group, 17.5 years (95% CI 17.5 to - 17.7) for NH whites, 18.1 (95% CI=17.7 to - 18.5) for Hispanics, 18.5 years (95% CI= 18.1 to - 18.8) for NH blacks and 18.5 years (17.9 to - 19.0) for NH Asians. With NH whites as a reference, we estimated that the age of initiation is 1 year later for NH blacks (95% CI = 0.7 to 1.4; P<0.0001), 1 year later for NH Asians (95% CI = 0.5 to 1.6; P=0.0005) and 0.7 years later for Hispanics (95% CI=0.2 to 1.1; P=0.0031). Compared to NH whites, the estimated age of smoking initiation was 1.9 years earlier for NH AIANs (95% CI = -3.5 to -0.2; P=0.03) and 1 year earlier for NH multiracial group (95% CI = -2.0 to -0.1; P=0.03). Conclusions/Significance: The results suggest the need to include race as factor in future smoking related studies focusing on age of initiation, as well as the implementation of smoking cessation interventions designed to prevent smoking initiation. These interventions could be tailored to specific racial and ethnic groups and could target young adults who are beyond high school age.	

ASPO 2010
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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!
Electra Paskett, President

Floor Plans

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MAIN LEVEL