

ASPO2015

39th Annual Meeting

Birmingham, Alabama



ASPO
American Society of
Preventive Oncology

UAB Hospital

Arrow System

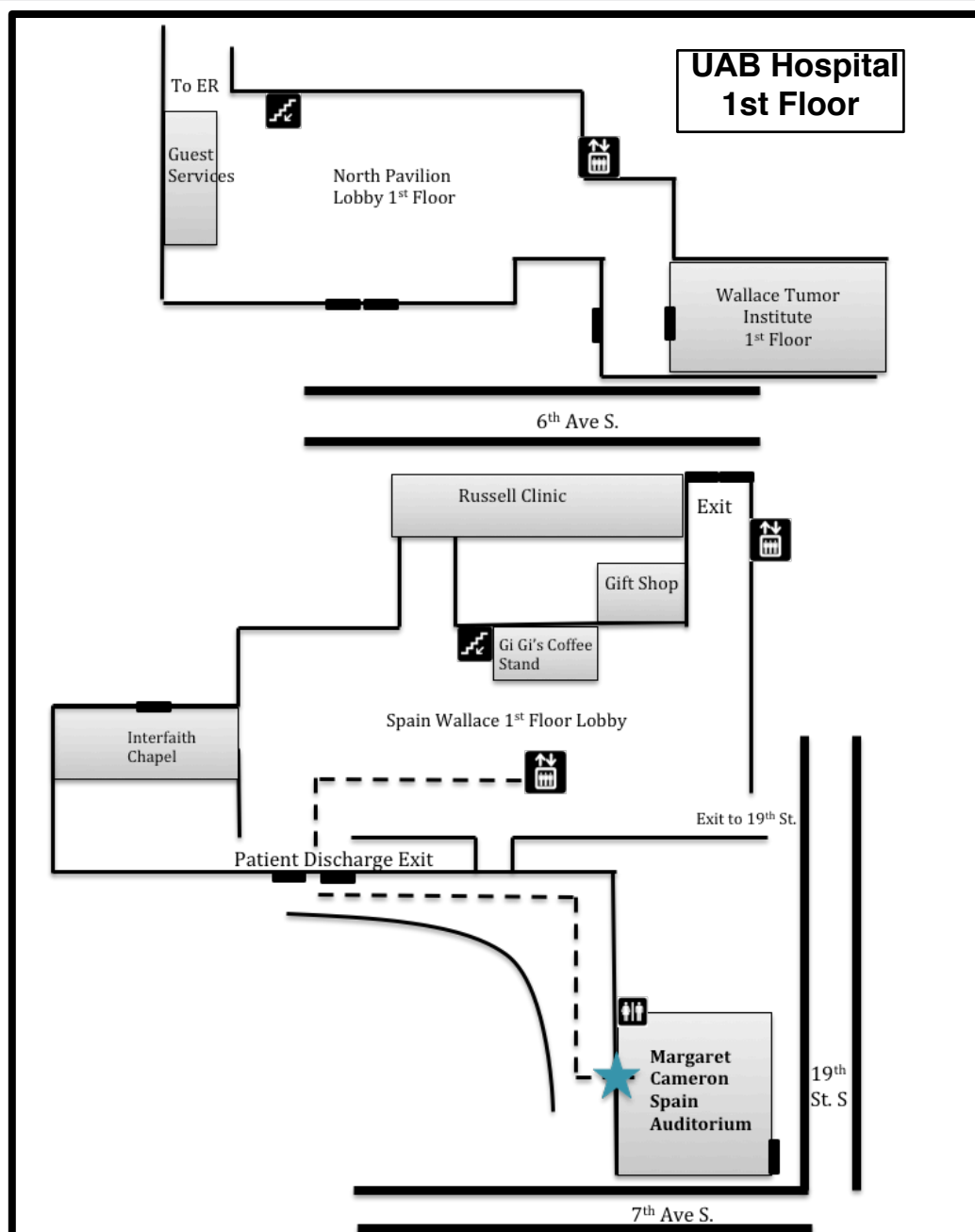


We have devised a system of color coded arrows to direct you to the various conference destinations. Each color will lead you to a specific location. Multi-colored arrows mark common paths that are leading to two or three separate locations. The colors and their corresponding destination are defined as follows:

Purple: Comprehensive Cancer Center/Wallace Tumor Institute - *Poster Session and Breakout Sessions*

Pink: West Pavilion Conference Center - *Breakout Sessions*

Teal: Margaret Cameron Spain Auditorium (MCSA) - *Plenary Sessions*



Wi-Fi Instructions

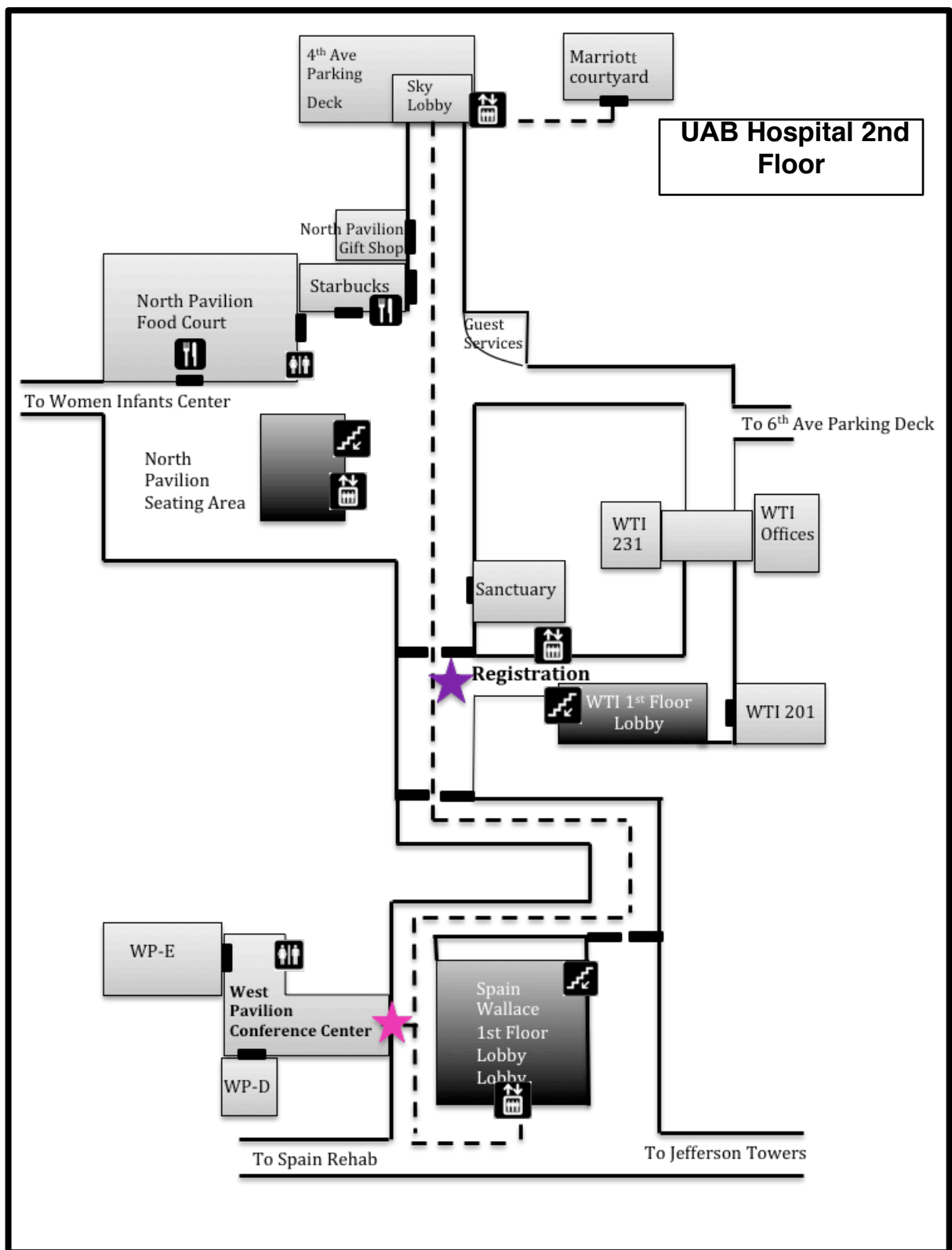
Comprehensive Cancer Center/Wallace Tumor Institute:

Select the network **Cancer Center Guest**. Once connected open your internet browser, fill in the Visitor Registration information, check the confirmation box, and click Register. On the next screen, click **Login** to complete registration.

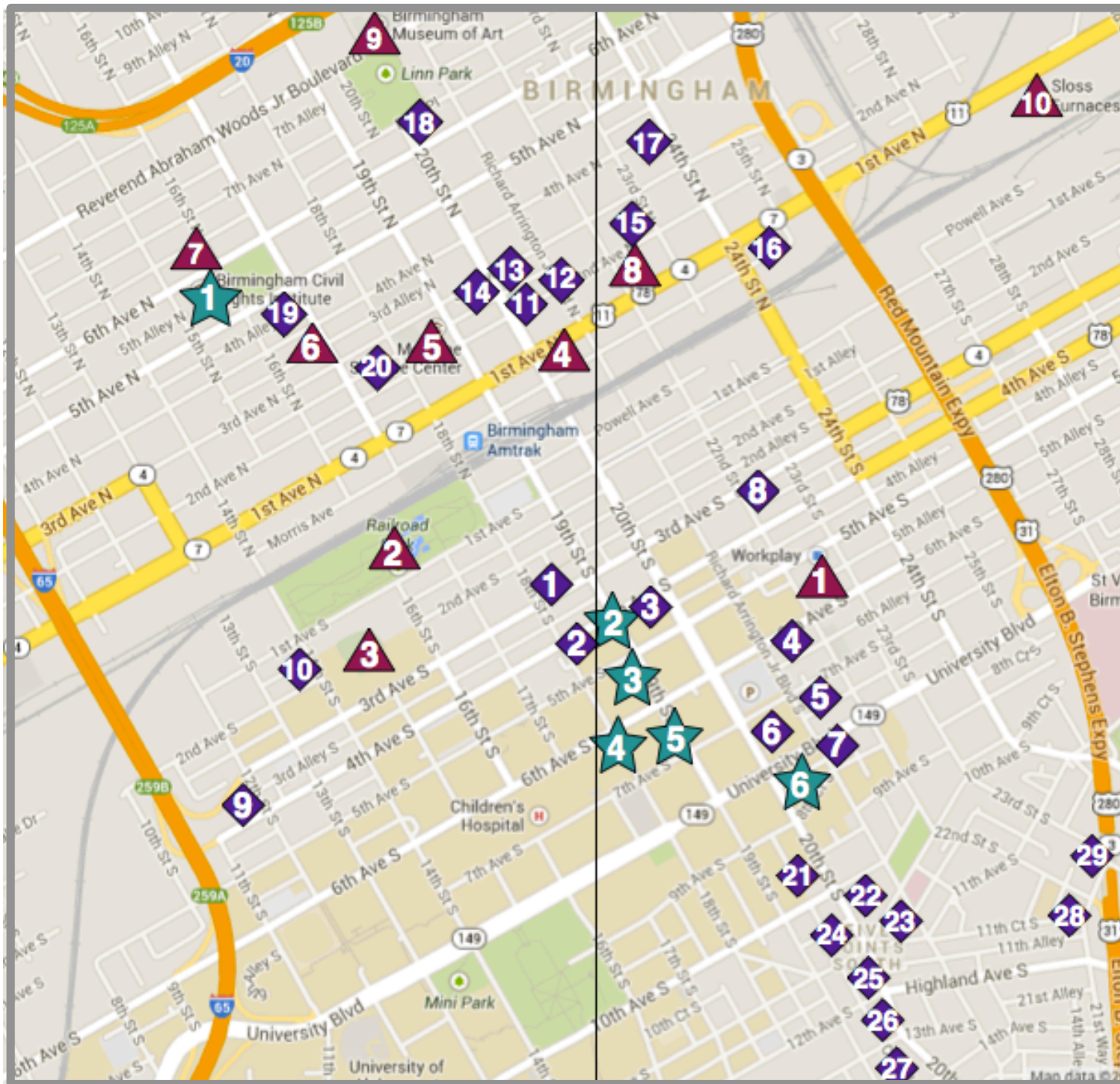
West Pavilion Conference Center and MCSA:

Select the network **uabhs_public**. A message will pop up about connecting to the network, click **Accept**. You will be brought to the UAB Hospital's homepage, click done in the upper right corner to exit.

*Please note network name and instructions may vary for different rooms.



Birmingham Map



Getting Around Birmingham- Rental Car Information:

Alamo Rent A Car:

5900 Messer-Airport Highway
Birmingham, AL 35212
(P): 205.591.4395

Avis Rent A Car:

5900 Messer- Airport Highway
Birmingham, AL 35212
(P): 205.592.8901

Budget Rent A Car:

2301 3rd Ave S.
Birmingham, AL 35233
(P): 205.322.3596

Dollar Rent A Car:

5600 Airline Dr.
Birmingham AL, 35212
(P): 205.591.8666

Enterprise Rent A Car:

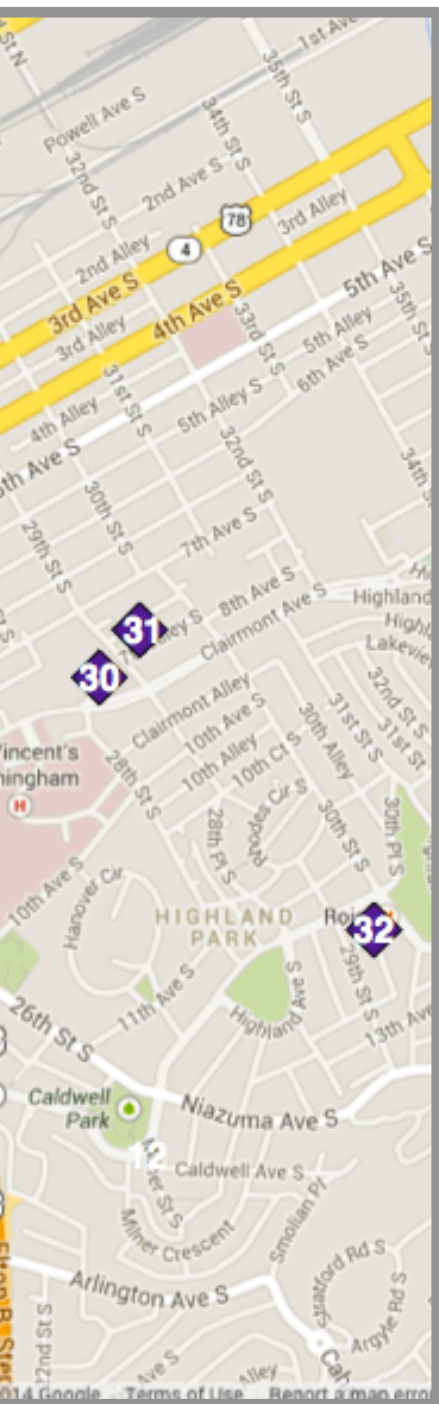
5900 Messer-Airport Hwy
Birmingham, AL 35212
(P): 205.591.1927

Hertz Rent A Car:

5900 Messer-Airport Hwy.
Birmingham AL, 35212
(P): 205.591.6090

National Car Rental

5900 Messer-Airport Hwy
Birmingham, AL 35212
(P): 205.592.7259



Conference Locations:

1. Birmingham Civil Rights Institute
2. Marriott Courtyard
3. Wallace Tumor Institute (WTI)
4. West Pavilion Conference Center (WPCC)
5. Margaret Cameron Spain Auditorium (MCSA)
6. Marriott Residence Inn

Restaurants and Brew Pubs:

1. Taziki's
2. Moe's/McAlister's/Guthrie's
3. Sinbad's/Milo's/Subway
4. Fish Market/Newk's
5. Rocky's Pizza & Italian Foods
6. Sitar
7. Lucy's Coffee and Tea
8. Sweet Tea Restaurant
9. Ted's Restaurant
10. Good People Brewery
11. Cafe Dupont
12. John's City Diner
13. Tratorria Centrale
14. Bistro 218
15. El Barrio
16. Carrigan's
17. Fife's
18. Century
19. Green Acres Cafe
20. Urban Standard/Rogue Tavern
21. Makario's
22. Pho Pho/Metro Prime/World of Beer
23. Chez Fon Fon/Highlands Bar and Grill
24. Jim N Nick's/Surin
25. Dave's Pub
26. Ocean/26/Mellow Mushroom
27. The J. Clyde
28. Galley and Garden/Hot and Hot Fish Club
29. Bottega
30. Five
31. Slice
32. Rojo

Points of Interest:

1. Iron City
2. Railroad Park
3. Regions Stadium
4. Peanut Depot
5. Alabama Theater
6. Alabama Jazz Hall of Fame
7. 16th St. Baptist Church
8. Wine Loft
9. Birmingham Museum of Art
10. Sloss Furnaces

Birmingham Weather:

National Averages for March:

Average high: 67° F Average Low: 44° F

March is the wettest month of the year with an average rainfall of 5.2 inches.

What to pack?

Birmingham can get pretty chilly in March, especially at night so make sure to bring one warm jacket. Be prepared for rain and pack your rain jacket, umbrella, etc.

Birmingham Restaurants and Bars

Medical District

- 1. Taziki's Mediterranean Cafe** 301 18th St S. 35233
Casual and fresh greek dining. *Open B/L/D \$ (205)731-9001*
- 2. Moe's/McAlister's/Guthrie's** 1801 4th Avenue S 35233
Casual Dining Southwest and American cuisine. *Open L/D \$*
- 3. Sinbad's** 401 19th St S. 35233
Casual Greek and American cuisine. *Open L/D \$ (205)714-9991*
- 4. Fish Market** 612 22nd St S 35233
Fresh & local seafood. *Open L/D Mon-Sat, Sun L. \$ (205) 322-3330*
- 5. Rocky's Pizza & Subs** 715 Richard Arrington Jr Blvd
Family owned Italian. *Open L/D Mon-Sat, Sun D only \$ (205)252-8282*
- 6. Sitar Indian Restaurant** 705 20th St S
Casual Indian cuisine with lunch buffett. *Open L/D \$ (205)323-6500*
- 7. Lucy's Coffee and Tea** 2007 University Blvd.
Soup & sandwiches. *Open B/L M-F, Closed Sat/Sun \$ (205) 328-2007*
- 8. Sweet Tea Restaurant** 2205 3rd Ave S 35233
Homestyle meat & three. *Open L/D M-Sat, Sun L. \$ (205) 745-3990*
- 9. Ted's Restaurant** 328 12th St. S 35233
Old-timey meat & three. *Open B/L M-F, Closed Sat/Sun \$ (205)324-2911*
- 10. Good People Brewing Company** 114 14th St S
Go on a tour and tasting of this local microbrewery. *Open 3p-10p M-F, 1p-10p Sat and 1p-6p Sun. \$ (205)286-2337*

Downtown

- 11. Cafe Dupont** 113 20th St. N, 35203
French style cuisine w/ seasonal & local ingredients. *Closed Sun/Mon. \$\$\$\$ (205)322-1282*
- 12. John's City Diner** 112 Richard Arrington Jr. Blvd
Signature Southern dishes. *Open L/D M-Fri. Sat D only. Closed Sun. \$ (205)322-6014*
- 13. Trattoria Centrale** 207 20th St N 35203
Salad, soup & homemade pizza. *Open B/L Sun-Mon \$ (205)202-5612*
- 14. Bistro Two Eighteen** 218 20th St N
French & modern American cuisine in a warm & welcoming atmosphere. *Open L/D T-F. Sat D Only. Closed Sun \$\$\$\$ (205)983-7999*
- 15. El Barrio** 2211 2nd Ave N 35203
High quality Mexican dining. *Open L/D Tues-Sat \$\$\$ (205)868-3737*
- 16. Carrigan's Public House** 2430 Morris Ave.
Pub fare, craft brews & funky cocktails. *Open L/D Mon- Sat Closed Sun \$ (205)440-2430*
- 17. Fife's Restaurant** 2321 4th Ave N 35203
Downhome meat & three. *Open B/L/D Mon-Sat \$ (205)254-9167*
- 18. Century Restaurant at the Tutwiler** 2021 Park Pl
Local Southern gourmet cuisine. *Open L/D \$\$\$ (205)458-9707*
- 19. Green Acres Cafe** 1705 4th Ave N
Chicken & waffles and other Southern classics. *Open 9a-11p \$ (205)251-3875*
- 20. Urban Standard** 2320 2nd Ave N 35203
Coffee, sandwiches & sweets. *Open 7a-8p Mon-Sat. \$ (205)250-8200*
- 20. Rogue Tavern** 2312 2nd Ave N 35203
American pub food and live music. *Open L/D M-Sat \$ (205)202-4151*

Five Points/ Highlands

- 21. Makarios Kabob & Grill** 940 20th St. S
Fresh & traditional Mediterranean cuisine. *Open L/D. \$ (205)731-7414*
- 22. MetroPrime** 1035 20th St S
High quality steak & seafood. *Open D only. \$\$\$\$ (205)623-5288*
- 22. Pho Pho** 1025 20th St. S
Vietnamese & sushi bar. *Open L/D. \$\$\$ (205)703-8929*

- 22. World of Beer** 1005 20th St. S *
American pub food. Large beer selection. *Open L/D \$ (205)703-7203*
- 23. Chez Fonfon** 2007 11th Ave S.
Fine French, farm-to-table dining with award-winning chef Frank Stitt. *Open L/D Tues-Fri. Sat D only. Closed Sun & Mon \$\$\$ (205)939-3221*
- 23. Highlands Bar & Grill** 2011 11th Ave S
Southern inspired French cuisine by chef Frank Stitt. *Open L/D Tues-Fri. Sat D only. Closed Sun & Mon. \$\$\$\$ (205)939-1400*
- 24. Jim 'N Nick's** 1908 11th Ave S
Tasty BBQ & endless cheese biscuits. *Open L/D \$ (205)320-1060*
- 24. Surin West** 1035 20th St S
Upscale Thai in casual atmosphere. *Open L/D \$ (205)324-1928*
- 25. Dave's Pub** 1128 20th St S
Local neighborhood pub "where friends meet". *Open 4p-2a. \$ (205)933-4030*
- 26. OCEAN** 1218 20th St. S 35205
Best restaurant winner; serves fresh seafood, sushi & oysters. *Open D Tues- Sat. Closed Sun-Mon. \$\$\$\$ (205) 933-0999*
- 26. 26 TWENTY SIX** 1210 20th St. S
Fine seafood and asian cuisine in a chic environment. *Open L/D M-Fri, Sat D only. Closed Sun. \$\$\$ (205)918-0726*
- 26. Mellow Mushroom** 1200 20th St. S *
Southern chain w/ gourmet pizza. *Open L/D \$ (205)212-9420*
- 27. The J Clyde** 1312 Cobb Lane S
Menu features gourmet burgers and pub food with beer pairings. *Open 2p- late M-Sat. Closed Sun \$ (205)939-1312*
- 28. Galley and Garden** 2220 Highland Ave S
Southern cuisine in a historic home. *Open D Tues- Sat and L Sun. Closed Mon. \$\$\$\$ (205)939-5551*
- 28. Hot and Hot Fish Club** 2180 11th Ct. S
Fresh local seafood w/ award winning Iron Chef Chris Hastings. *Open D Tues-Sat, Closed Sun & Mon \$\$\$\$ (205)933-5474*
- 29. Bottega Cafe & Restaurant** 2240 Highland Ave S
Fine Italian dining. *Open L/D Mon-Sat Closed Sun \$\$\$ (205)939-1000*
- 30. FIVE** 744 29th St. S
High quality, simple dining. *Open D M-R. L/D Fri-Sun \$\$\$ (205)868-3841*
- 31. Slice Stone Pizza & Brew** 725 29th St. S
Gourmet Pizzeria. *Open L/D. \$ (205)715-9300*
- 32. Rojo** 2921 Highland Ave S
Mexican fare in the historic Highlands area. *Open L/D Tues-Sun. Closed Mon. \$ (205)328-4733*

Off the Map but still nearby

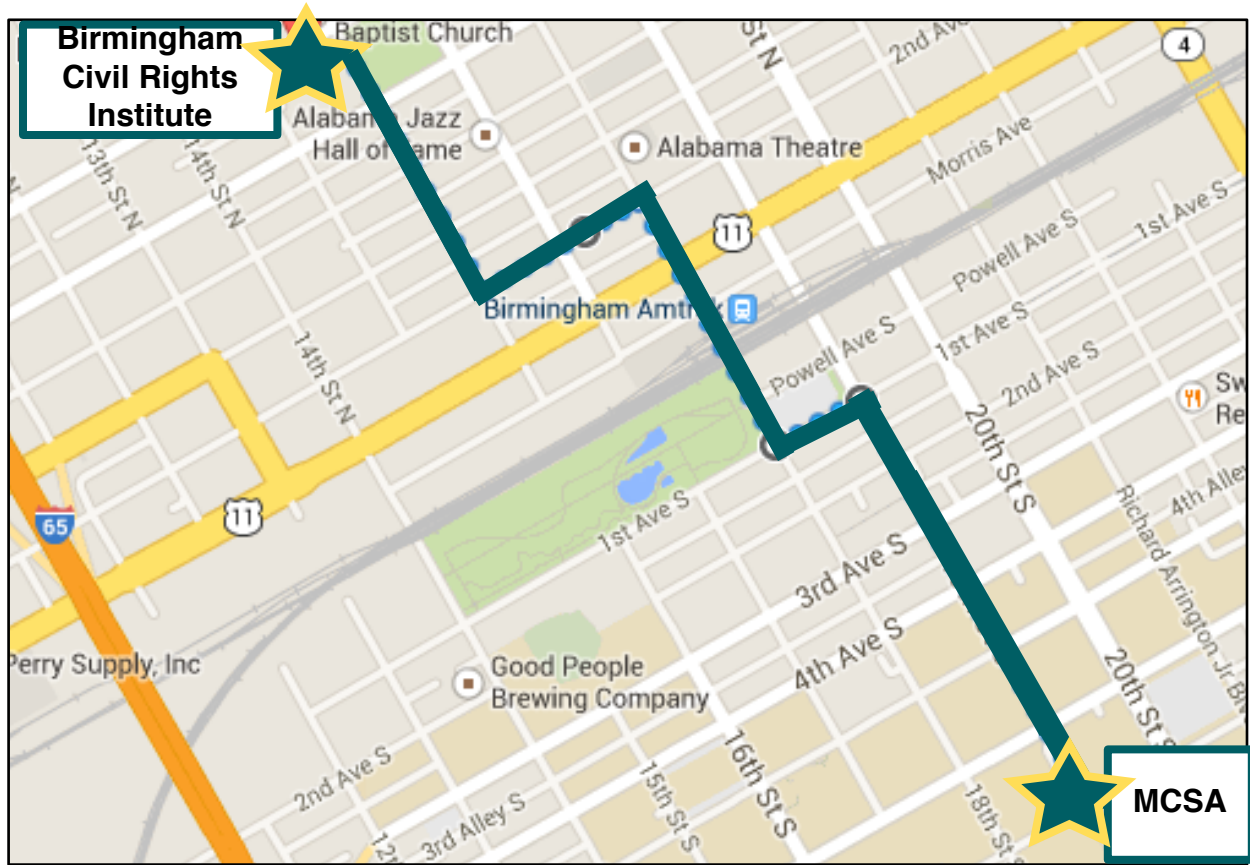
- Texas de Brazil** 2301 Richard Arrington Jr. Blvd N
A Brazilian themed steakhouse. *Open D only. \$\$\$\$ (205)588-8333*
- Dreamland BBQ** 1427 14th Ave S 35205
Known for their ribs and white bread. *Open L/D \$ (205)933-2133*
- Pita Stop Southside** 1106 12th Street South
Known for their Mediterranean and American Cuisine. *Open L/D M-Sat\$ (205)328-2746*
- Silvertron Cafe** 3813 Clairmont Ave S 35222
American fare with old-timey Birmingham charm. *Open L/D. \$ (205)591-3707*
- Little Savannah's** 3811 Clairmont Avenue S 35222
A small bistro that combines southern ingredients & international dishes. *Open D Tues- Sat, Sun L only. Closed Mon. \$\$\$\$ (205)591-1119*

* Indicates Restaurant is open Sunday evening

Note: Information based on Birmingham's IN Guide app for ios and Urbanspoon.com

Civil Rights Institute

Map and Directions



Walking Directions to the Civil Rights Institute:

Starting point: Margaret Cameron Spain Auditorium *corner of 7th Ave S. and 19th St. S.*

Ending point: Birmingham Civil Rights Institute *520 16th St. N. 35203*

Total Distance: 1.3 miles **Estimated Time:** 27 minutes

1. Exit MCSA and head northeast on 7th ave S towards 19th St. S.
2. Turn **left** onto 19th St. S. and walk for 6 blocks. (.5 miles).
4. Turn **left** onto 1st ave S and walk one block.
5. Turn right onto 18th St. S.
6. Continue on 18th St. S for .3 miles, walking alongside railroad park and through the 'rainbow' tunnel.
7. Turn left on 2nd Ave N. and walk 2 blocks.
8. Turn right onto 16th St N. and walk 4 blocks.
9. The Civil Rights Institute will be on the left side of the street between 5th and 6th ave.
10. To enter the Rotunda take a left past the ticket booth and walk up the steps. The Rotunda entrance will be directly up the stairs through the double doors.

* Note: for safety purposes please walk in groups, and it is advised to take the shuttles back to your hotels after the event.

Explore Alabama

If you enjoy the great outdoors...

Oak Mountain State Park

200 Terrance Dr. Pelham, AL 35124.
(205).620.2520. Open daily 7a- sundown,

Over 50 miles of hiking and biking trails, picnic facilities, boat rentals, fishing lakes, golfing, and horseback riding. Peavine falls, a breathtaking 65 ft spring fed water fall is a must see.

Red Mountain

2011 Frankfurt Dr. Birmingham, AL 35211
(205).202.6043. Open daily 7a- 7p,

Historically the source of red iron ore that led to Birmingham's founding. Now one of the most rapidly growing park projects in America featuring...

- Red Ore Zipline Tour
- Hugh Kaul Beanstalk Forest,
- Remy dog park
- 11 miles of hiking and biking trails

Blue Ridge Parkway

"Experience America's Favorite Drive"

469 scenic miles that wind through the mountainous North Carolina and Virginia. Enjoy wild life, soak in Native American history, and explore museums and exhibits. The closest visitor center is **Waterrock Knob** in Scott Creek, NC, a 5 hour drive from Birmingham.

Robert Trent Jones Golf Trail

"a unique golfing experience for all levels"

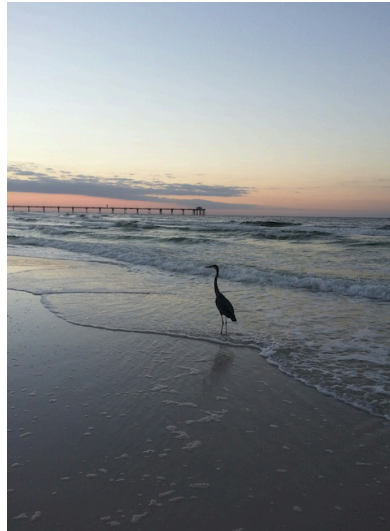
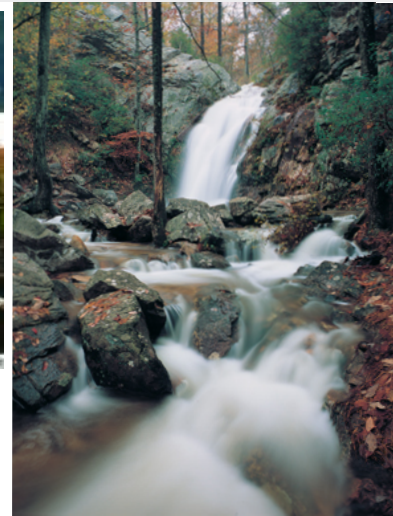
The largest golf course construction project ever attempted, with a total of 11 trails, 26 courses, and 468 holes across the state. Birmingham has 2 trails:

- Oxmoor Valley (205)942.1177
- Ross Bridge (205)949. 3085.

Gulf Coast Getaway

Alabama's beautiful white sand beaches are only a 4.5 hour drive from Birmingham. The perfect place to relax, shop, enjoy fresh seafood, or embark on adventures such as dolphin cruises, deep sea fishing, and Historic Fort Morgan.

Book now at gulfshores.com/lodging or call 1-800-745-7263 for more information



If you're feeling a need for speed...

Barber Vintage Motorsports Museum

6030 Barber Motorsports Pkwy Birmingham, AL 35094
(205)699.7275 Open Mon- Sat 10a-5p, Sunday 12p 5p.

Home to the world's best motorcycle collection with over 1200 vintage and modern motorcycles and racecars.

Talladega Superspeedway and Hall of Fame

3366 Speedway Blvd Lincoln, AL. 1 hour West of Bham.
Call (877)462.3342 for ticket and tour information.

The famous motorsports complex that hosts NASCAR series races and the neighboring International Motorsports Hall of Fame and museum. The museum is "home to some of the most historical artifacts in all of motorsports".
Open 9a- 5p
Admission \$12-\$16



If you're interested in Southern History and Culture...

Helen Keller's Birthplace 'Ivy Green'

300 N Commons St. W Tusculumbia, AL
Just 2 hours North of Birmingham

Visitors can experience the place where Helen grew up, including the historic water pump where her 'miracle' breakthrough occurred.

Hours: Mon-Sat 8:30a-4p.

Phone: (256)383-4066

Frank Lloyd Wright's Rosenbaum House

601 Riverview Dr. Florence, AL
Just 2 hours North of Birmingham

An American architectural treasure built for the Rosenbaum family in 1939 in Wright's Usonian style. The house sits on a 2 acre lot facing the Tennessee River, and is open to the public for tours.

Hours: Tues-Sat 10a-4p & Sun 1-4p.

Phone: (256) 740-8899

Dexter Parsonage Museum

315 Jackson St. Montgomery, AL
Just 1.5 hours South of Birmingham

Home of Martin Luther King Jr. from 1954-1960 while he led the Montgomery Bus Boycott. Included in the National Register of Historic places, features a tour and exhibit of unpublished photographs.

Hours: Tues-Sat

Phone: (334)263-3970



Rosa Parks Library and Museum

220 Montgomery St. Montgomery, AL
Just 1.5 hours South of Birmingham

This tribute to Rosa Parks features a video, artifacts, historical documents, and a replica of the bus in which the Montgomery Bus Boycott took place.

Hours: Mon-Fri 9a-5p & Sat 9a-3p.

Admission: \$8.

Phone: (334)241-8661



Fitzgerald Museum

919 Felder Ave. Montgomery, AL

"One of America's most important literary landmarks" Located in a historic building where Scott and Zelda resided in the early 1930's. This museum honors the life and works of these influential American Authors.

Hours: W-F 10a-2p & Sat-Sun 1p-5p **Phone:** (334)264-4222

Tuskegee Institute

1212 Old Montgomery Rd. Tuskegee, AL

Features the George Washington Carver Museum, "The Oaks", home of Booker T. Washington, and a tour of the historic Tuskegee Institute Campus where the Tuskegee Airmen trained during WWII.

Hours: Mon-Sat 9-4:30

Phone: (334)724-0922

The Vulcan Park and Museum

1701 Valley View Dr.
Birmingham, AL

The world's largest cast iron statue that overlooks the city of Birmingham. It is built in the image and likeness of Vulcan, the Roman God of Fire and Forge; symbolic of the city's iron origins.

Hours: Mon-Sat 10a-10p,
Sun 1p-10p

Phone: (205)933-1409

Old Monroe County Courthouse

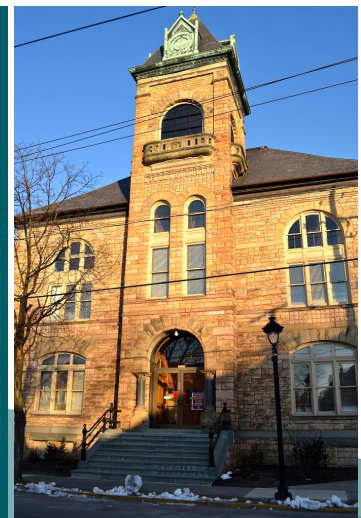
31 N Alabama Ave. Monroeville, AL
Just 3 hours South of Birmingham

The fictional town of Maycomb in "To Kill a Mockingbird" is modeled after Monroeville. The courthouse contains exhibits for Harper Lee & Truman Capote and is in the National Register of Historic Places.

Hours: Tues-Fri 10a-4p & Sat 10a-2p

Phone: (251)575-7433

monroecountymuseum.org



2015 ASPO Distinguished Achievement Award



The ASPO Distinguished Achievement awardee is **Dr. Richard R. Love**, Amader Gram, Khulna and Rampal, Bangladesh (formerly of the University of Wisconsin, The Ohio State University, and the International Breast Cancer Research Foundation). His many contributions to breast cancer etiology, prevention and treatment have improved the lives of women and their families the world over.

2015 ASPO Distinguished Service Award



ASPO is pleased to announce the Distinguished Service of **Dr. Amy Trentham-Dietz**, University of Wisconsin School of Medicine and Public Health. Dr. Trentham-Dietz has served ASPO for over 10 years as a treasurer, on-site faculty, and successful PI for the ASPO conference grant (funded every year)!

2015 Joseph W. Cullen Memorial Award for Excellence in Tobacco Research Winner

Congratulations to Cheryl L. Perry, Ph.D.

Professor of Health Promotion and Behavioral Sciences at
The University of Texas Health Science Center at Houston
(UTHealth) School of Public Health Austin Regional Campus;
The Rockwell Distinguished Chair in Society and Health;
Regional Dean of the Austin Regional Campus



The Department of Health Promotion and Behavioral Sciences at the UTHealth School of Public Health congratulates Cheryl L. Perry, Ph.D., for being named the recipient of the 2015 Joseph W. Cullen Memorial Award for Excellence in Tobacco Research by the American Society of Preventive Oncology. Dr. Perry has more than 36 years of experience in the design, development, implementation, and evaluation of school, family, and community programs for young people. Her research has primarily involved group-randomized trials funded by the NIH to prevent the onset of tobacco, alcohol, and drug use, as well as the promotion of healthy eating and physical activity. She was the principal investigator of the Child and Adolescent Trial for Cardiovascular Health (CATCH), Project Northland, the Minnesota Smoking Prevention Program, 5-A-Day Power Plus, D.A.R.E. Plus, and Project MYTRI (India). These trials demonstrated significant outcomes in terms of behavior change among children and adolescents. Throughout her career, Dr. Perry has been involved in tobacco-use prevention among young people. She served as the senior scientific editor for the 1994 and 2012 Surgeon General's Reports on tobacco use among youth and young adults. She is currently one of the senior scientific editors for the upcoming 2016 Surgeon General's Report on e-cigarettes. She testified as a key witness for the State of Minnesota in the state's tobacco trial in 1998 against the tobacco companies. Dr. Perry is currently co-investigator on an NIH-funded school-randomized trial on tobacco use and physical activity among youth in Uruguay, and on a Texas Department of State Health Services project to reduce tobacco use among college students. She serves as the principal investigator of the Tobacco Center of Regulatory Science on Youth and Young Adults.

A summary of Dr. Perry's leadership in tobacco research includes:

- Developing one of the first evidence-based teen smoking prevention programs with long-term outcomes.
- Acting as the senior scientific editor on all three Surgeon General's Reports that have focused on youth and young adults.
- Acting as one of the primary expert witnesses at the Minnesota trial on the effects of tobacco companies' marketing to underage youth.
- Serving as the principal investigator of the Tobacco Center for Regulatory Science on Youth and Young adults, which focuses on research to guide the Food and Drug Administration in the areas of marketing regulations and communications to youth and young adults.

We honor her for her many contributions as a researcher and leader, as well as for her dedication to eliminating tobacco use and smoking and their harmful effects!

**Cancer Prevention and Control Post-Doctoral Training Program
at the University of Alabama at Birmingham**

The University of Alabama at Birmingham (UAB) is home to one of the original eight NCI-designated comprehensive cancer centers. UAB also has one of the nation's oldest and continuously-funded research training programs in cancer prevention and control (NCI R25T). For over a quarter of a century, we have provided interdisciplinary research training to both pre- and post-doctoral fellows, who now have established independent research careers in academic and scholarly organizations. Currently, we are seeking competitive applicants for **post-doctoral** fellowship positions.

This 1-2 year program prepares fellows for independent research careers in the field of cancer prevention and control. Our program is comprehensive, competitive and provides training in areas that range from primary prevention to cancer survivorship, from the cell to populations, and from basic science to community-based participatory research and interventions.

This successful and interdisciplinary postdoctoral program provides expert and closely-mentored training by a multi-disciplinary team. Senior faculty mentors represent diverse disciplines, including epidemiology, nutrition sciences, cancer survivorship, palliative and supportive care, nursing, informatics, health policy, social & behavioral sciences, cancer biology, and genetics. The program provides didactic and experiential training opportunities, including practical experience in grant preparation, data analysis, project management, professional skills training, and scientific writing (abstracts/manuscripts).

The program seeks highly qualified and experienced individuals who are passionate about advancing the science of cancer prevention and control, and who are motivated to take full opportunity of the rich, scholarly resources available at UAB. Eligible candidates must be U.S. citizens or permanent residents, and possess a doctoral degree (PhD, DrPH, MD, DO or equivalent) from an accredited university.

The CPCTP offers:

- Up to two years of funding ● Competitive salary and benefits ● Tuition ● Health insurance
- Research support ● Travel allowance

Review of applications for 2015-16 will begin immediately and continue until positions are filled.

Applications should include the following:

- Cover letter including a statement of research interests and how the training grant will further your scholarly career in cancer prevention and control
- Curriculum vitae
- 3 letters of recommendation and reprints of first authored papers.

Applications should be emailed to: Drs. Wendy Demark-Wahnefried and Karen Meneses (see below). For more information about the training program, please contact Drs. Wendy Demark-Wahnefried (demark@uab.edu) or Karen Meneses (menesesk@uab.edu) or visit our website <http://www.uab.edu/cpctp>.

The University of Alabama at Birmingham is an equal opportunity/affirmative action employer



THE UNIVERSITY OF
ALABAMA AT BIRMINGHAM

UAB welcomes you, and is proud to be your host for the 39th Annual ASPO meeting. We are currently recruiting for the following key positions – please let us know if you are interested. Enjoy your time here and please come back!

The University of Alabama at Birmingham (UAB) is home to one of the original eight NCI-designated comprehensive cancer centers (CCC). It has been continuously funded for >40 years and currently holds >\$140 M in extramural research funding. The UAB-CCC is comprised of 6 major research programs, 15 shared facilities, and 3 SPORES. UAB is a thriving urban university/medical center with research funding exceeding \$433 M, and houses a CCTS and a Nutrition and Obesity Research Center. We are growing and now recruiting for the following positions (12-month tenured or tenure-earning positions with salary, rank and tenure status commensurate with qualifications):

ENERGETICS & CANCER: Department of Nutrition Sciences/School of Health Professions is seeking an investigator with a track record in energetics and cancer biology. Appointments at the rank of Assistant Professor are being considered, with rank and tenure status based on qualifications. Candidates must have an MD, DrPH, or PhD. Successful senior candidates will be expected to demonstrate a track record of a sustained program of research in this area, including mentoring of junior faculty and trainees. The Department of Nutrition Sciences (www.uab.edu/nutrition) has more than 18 full-time faculty members and more than 90 staff, students, and postdoctoral fellows involved in basic, animal, physiologic, clinical, and community-based research, service, and teaching. Contact: Wendy Demark-Wahnefried, PhD, RD, Professor & Webb Endowed Chair of Nutrition Sciences Email: demark@uab.edu

CANCER OUTCOMES & SURVIVORSHIP: The Institute of Cancer Outcomes and Survivorship in the School of Medicine at UAB invites applications for faculty positions at the Assistant or Associate Professor in Cancer Outcomes and Survivorship. Successful candidates should have (1) an MD and MPH/ MSHS, or PhD, or an equivalent degree in epidemiology, human genetics, molecular genetics, biological sciences, biostatistics, bioinformatics or related fields; (2) a track record and/or strong promise of obtaining peer-reviewed external funding and publications in the above areas; (3) commitment to excellence in teaching and advising undergraduate and graduate students; (4) excellent written and oral communication skills; and (5) a strong work ethic and demonstration of collaborative research. Candidates with a research focus in genetics, biomarkers, molecular epidemiology, health economics, risk prediction modeling, and applicants with strong methods/quantitative skills, are particularly encouraged to apply. Contact: Smita Bhatia, MD, MPH, Professor, and Director, Institute of Cancer Outcomes and Survivorship. Email: sbhatia@peds.uab.edu

UAB is an Affirmative Action/Equal Opportunity Employer. Women, minorities, individuals with disabilities and veterans are particularly encouraged to apply.



The Ohio State University
looks forward to hosting the
2016 ASPO Annual Conference
and celebrating the 40th
Anniversary of ASPO.

MARCH 12-15

The James

O THE OHIO STATE UNIVERSITY
COMPREHENSIVE CANCER CENTER

Honoring Ellen R. Gritz, Ph.D.

Professor and Former Department Chair, Behavioral Science
The University of Texas MD Anderson Cancer Center

The Division of Cancer Prevention and Population Sciences at MD Anderson Cancer Center honors Ellen R. Gritz, Ph.D., professor and founding chair of the Department of Behavioral Science for a lifetime of achievements in cancer prevention and control.



Dr. Ellen R. Gritz's exemplary career included seminal contributions that expanded the world's knowledge about tobacco use and addiction, as well as our understanding and assessment of cancer risks and risk reduction. Her work resulted in more than 300 publications, 185 of which are original articles in peer-reviewed journals. She contributed to eight Reports of the Surgeon General on Smoking and Health. Her innovative research earned her many honors including membership in the Institute of Medicine (IOM) of the National Academy of Sciences in 2007, the first woman faculty member at MD Anderson to be elected. Among her many leadership roles, Dr. Gritz is the past-president of the American Society of Preventive Oncology and the Society for Research on Nicotine and Tobacco.

A major focus of her work has been in reducing the impact of smoking on cancer patients, women, and high-risk groups including ethnic minorities, youth and persons living with HIV/AIDS and other chronic illnesses. As a result of her commitment to reducing tobacco use by cancer patients, Dr. Gritz has made important contributions to the area of tobacco policy, specifically the documentation of tobacco use in oncology clinical trials and clinical practice, as well as serving as a pathway for smoking cessation treatment and referral.

Dr. Gritz has received many awards for her work including the American Society of Preventive Oncology's Joseph W. Cullen Memorial Award for outstanding research in smoking, ASPO's Distinguished Achievement Award, the Alma Dea Morani Renaissance Woman Award, and the Society of Behavioral Medicine, Cancer Special Interest Group's Outstanding Biobehavioral Oncology Award. In 2008, The Ellen R. Gritz Postdoctoral Fellowship in Tobacco Control at the Schroeder Institute and the Johns Hopkins Bloomberg School of Public Health was named in her honor.

We thank Dr. Gritz for her pioneering research and leadership in smoking behaviors and nicotine addiction, including prevention, cessation and pharmacologic mechanisms. We congratulate her on a remarkable career that has contributed to countless lives saved from the harms of tobacco.

Celebrating 40 years of cures

PREVENTION IS

THE BEST

CURE

Fred Hutch and ASPO
turn 40 this year.



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CURES START HERE™

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ABOUT BRP

The Behavioral Research Program (BRP) is within the National Cancer Institute's Division of Cancer Control and Population Sciences. BRP initiates, supports, and evaluates a comprehensive program of research ranging from basic behavioral research to the development, testing, and dissemination of interventions in areas such as tobacco use, screening, dietary behavior, and sun protection. Our goal is to increase the breadth, depth, and quality of behavioral research in cancer prevention and control.

dccps.cancer.gov/brp



AREAS OF RESEARCH

- Basic Biobehavioral and Psychological Sciences
- Health Behaviors
- Health Communication and Informatics
- Science of Research and Technology
- Tobacco Control



CAREER AND TRAINING

Health Behaviors Research Branch (HBRB) Chief
HBRB supports research on cancer prevention behaviors and outcomes, including energy balance, sun safety, genetic influences, and virus exposure. For more information, contact jerry.suls@nih.gov.

Cancer Research Training Award (CRTA) Fellowship in Health Communication
CRTA fellows perform scientific writing, editing, and produce web content in behavioral research. For more information, contact Mary O'Connell at oconnellm@mail.nih.gov.

KEY INITIATIVES, TOOLS, AND RESOURCES

Health Information National Trends Survey (HINTS)
Nationally representative data on the American public's need for, access to, and use of cancer-related information.

Grid-Enabled Measures database (GEM)
A virtual community for researchers to harmonize data and share constructs.

Smokefree.gov & Women.smokefree.gov
Free, evidence-based information and tools to help smokers quit for good.

Classification of Laws Association with School Students (CLASS)
Monitors and evaluates state-level school physical education and nutrition policies.

Team Science Toolkit
An interactive website that consolidates knowledge and facilitates resource sharing.

Family Life, Activity, Sun, Health, and Eating (FLASHE)
Survey to examine psychosocial, generational (parent-teen), and environmental correlates of cancer-preventive behavior.

More information and a complete list of funding opportunities for BRP and the Division of Cancer Control and Population Sciences can be found at cancercontrol.cancer.gov/funding_apply.html and behavioralresearch.cancer.gov.



Seeking a Branch Chief to join the National Cancer Institute, Early Detection Research Group, Division of Cancer Prevention

The Department of Health and Human Services (DHHS), National Institutes of Health (NIH), National Cancer Institute (NCI), Division of Cancer Prevention (DCP), Early Detection Research Group (EDRG) is seeking a Chief. The Early Detection Research Group (EDRG): (1) Develops scientific information and concepts for dissemination of knowledge regarding early detection techniques, practices, and strategies to reduce mortality and morbidity from cancer; (2) manages and supports clinical trials of early detection and associated biorepositories and analyzes research results on cancer screening; and (3) supports clinical trials and other appropriate research, fosters technological development and statistical modeling of new technologies. This position offers:

- Opportunities to develop and implement initiatives on the cutting edge of early detection science and cancer prevention
- Opportunities for transdisciplinary collaboration in diverse areas of cancer screening and prediction of cancer risk
- A scientifically energizing and collegial environment
- Responsibility for supervising a staff of scientists, fellows, and administrative staff

The successful candidate will be expected to serve as a technical and scientific expert in the area of early detection and cancer screening. This individual also will be expected to identify research gaps and scientific opportunities related to early detection and develop initiatives to address these gaps and opportunities, identify ongoing implementation needs, and develop resources for the scientific community. Additionally, the successful candidate will help foster partnerships within and across federal agencies and non-federal industries.

The work site will be located in Rockville, Maryland, a suburb of Washington, D.C., and is located a short drive or shuttle ride from the main campus of the National Institutes of Health in Bethesda, MD.

Salary Range

Salary range for this position is \$126,245 to \$158,700 annually, depending upon qualifications and experience. Benefits include health and life insurance options, retirement, paid holidays and vacation leave. Supplemental pay may be provided for physicians with a current medical license. A relocation package will be negotiable.

Qualifications

U.S. citizenship is required for all applicants. Candidates must have earned an M.D. or Ph.D. or the equivalent in a discipline related to early detection or screening for cancer (e.g., preventive medicine, medical oncology, clinical epidemiology, molecular biology, biochemistry). Familiarity with statistical approaches to the evaluation of medical screening studies is highly desirable.

Application Instructions

Please submit your C.V., statement of interest and contact information, a list of representative publications, and the names of three references to Ms. Issa Burguillo at burguilloil@mail.nih.gov. For more information about the position, please contact Dr. Lori Minasian (Deputy Director, DCP) at minasilo@mail.nih.gov. For more information about the Early Detection Research Group and DCP, visit <http://prevention.cancer.gov/programs-resources/groups/ed>

DHHS, NIH, and NCI are Equal Opportunity Employers



Postdoctoral Fellowship Opportunity

We are inviting applications to our post-doctoral training program in behavioral oncology. This recently refunded NCI-supported interdisciplinary training program is designed to prepare fellows for careers as independent investigators engaged in research on behavioral aspects of cancer prevention detection and control. The program combines a specialized curriculum (formal didactic training and one-on-one interactions with experienced mentors) with research experience (participation in funded studies under the guidance of an experienced investigator).

Applicants must have a terminal degree (Ph.D., Ed.D., Sc.D., D.P.H. or M.D.) in a social science, a behavioral science, nursing, education, public health or medicine and be committed to a career in behavioral oncology research. Stipends and benefits are highly competitive. Review of applications will begin immediately and continue until positions are filled. Applicants must be U.S. citizens or permanent residents.

To apply, send completed application form (available at the website listed below), curriculum vitae and two letters of reference to: Christine A. Marsella, H. Lee Moffitt Cancer Center & Research Institute, 12902 Magnolia Drive, MRC-CANCONT, Tampa, Florida 33612; e-mail: christine.marsella@moffitt.org. For more information about the program, please visit the following website: <http://www.moffitt.org/behavioraloncology>.



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At the new James, the third-largest cancer hospital in America, we understand that each person's cancer is unique. Here, the world's brightest researchers, oncologists and other specialists work together, focused solely on discovering, developing and delivering the most effective treatment for all types of cancer. To successfully prevent, detect and treat each cancer, sub-specialized cancer physicians must work side-by-side with cancer researchers, understand the disease at the molecular level and determine which treatments will stop it. The new James brings together the newest technology and these teams of experts in an amazing structure designed for one purpose...our patients.

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To learn more visit cancer.osu.edu.

Seeking applicants with outstanding promise for scholarly achievement in cancer prevention and control research

A quality program with career benefits

- A thriving interdisciplinary research environment with collaborations in diverse populations and areas of the state
- Located in the world's largest medical center
- Outstanding faculty mentors
- Funded by the National Cancer Institute
- Support for 2–3 years
- Annual salary \$50,000 and up
- Excellent benefits, tuition, books, software, travel, and statistical and writing consultation
- Up to \$8,000 is available for research expenses -

NEW!

Eligibility

- Individuals with a PhD, DrPH, MD, or other doctoral degree in public health, health promotion/health education, one of the behavioral or social sciences, epidemiology, or medicine
- Open to U.S citizens and permanent residents (1 international fellow can be appointed) – **NEW!**

Application deadline; April 15, 2015

Training directors

Patricia Dolan Mullen, DrPH
Sally W. Vernon, PhD
L. Kay Bartholomew, EdD, MPH
Maria E. Fernandez, PhD

For more information: ncifellowships@uth.tmc.edu



Mayo Clinic Cancer Genetic Epidemiology Training Program

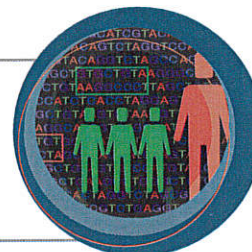
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POSTDOCTORAL PROGRAM

- Designed to produce independent researchers who will utilize “omic” technologies in epidemiology studies to stimulate improvements in cancer detection, prevention and treatment
- Fellowships are up to 3 years in duration and funded by NCI (R25T CA092049)
- Development of an independent research program with dedicated research funds
- Structured mentoring by teams of multi-disciplinary faculty
- Specialized curriculum and professional development opportunities
- Unique Mayo Clinic environment with access to large data sources and established studies
- Track record of successful R25 trainees securing positions in academia and industry

FOR INFORMATION, PLEASE CONTACT:

Celine Vachon Ph.D. or Fergus Couch Ph.D., Program Directors
Mayo Clinic College of Medicine | 200 First Street SW, Rochester, MN 55905
Telephone: (507) 284-5553 | Email: Vachon.Celine@mayo.edu
www.mayo.edu/research/cancer-genetic-epidemiology-postdoctoral-program



American Society of Preventive Oncology

39th Annual Meeting

President:

Wendy Demark-Wahnefried, PhD

University of Alabama at Birmingham

Program Co-Chairs:

Karen Basen-Engquist, PhD

UT M.D. Anderson Cancer Center

James Cerhan, MD, PhD

Mayo Clinic

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. Karen Basen-Engquist** and **James Cerhan** for their extraordinary commitment in facilitating the development of the program for this meeting, and to the entire 2015 ASPO Program Committee for sharing their expertise and their valuable contributions to the program.

2015 Program Committee

Karen Basen-Engquist, PhD, Co-Chair
UT M.D. Anderson Cancer Center

Laura Rogers, MD, MPH
University of Alabama at Birmingham

James Cerhan, MD, PhD, Co-Chair
Mayo Clinic

Christine Skibola, PhD
University of Alabama at Birmingham

Allison Burton-Chase, PhD
Albany College of Pharmacy & Health Services

Melinda Stolley, PhD
Medical College of Wisconsin

Wendy Demark-Wahnefried, PhD
University of Alabama at Birmingham

Jamie L. Studts, PhD
University of Kentucky

Marc T. Goodman, PhD, MPH
Cedars-Sinai Medical Center

Amy Trentham-Dietz, PhD
University of Wisconsin - Madison

ASPO Executive Committee Members

(parentheses indicates term expiration)

Position	Name
President	Wendy Demark-Wahnefried
President-Elect	Polly Newcomb (2017)
Past President	Peter Shields (2013)
Secretary/Treasurer	Susan Steck (2016)
At-large member	Elena Martinez (2017)
At-large member	Amelie Ramirez (2015)
At-large member	Amy Trentham-Dietz (2016)
Honorary	Al Neugut
Honorary	Melissa Bondy
ACS representative	Susan Gapstur
ASCO representative	Ernest Hawk
Staff	Heidi Sahel
Special Interest Groups:	
Behavioral Science & Health Communication	Chair: Sylvia Chou (2016) Vice-Chair: Jada Hamilton
Molecular Epi & The Environment	Chair: Roberd Bostick (2015) Vice-Chair: Mack Ruffin
Lifestyle Behaviors, Energy Balance & Chemoprevention	Chair: Elizabeth Jacobs (2015) Vice-Chair: Carolyn Fang
Survivorship & Health Outcomes/Comparative Effectiveness Research	Chair: K Basen-Engquist (2015) Vice-Chair: Katie Sterba
Cancer Health Disparities	Chair: Electra Paskett (2015) Vice-Chair: Beti Thompson
Early Detection & Risk Prediction of Cancer	Chair: Deb Glueck (2016) Vice-Chair: Mira Katz
Junior Members (Early Career)	Chair: Brian Sprague (2016) Vice-Chair: Hazel Nichols
International Issues in Cancer	Chair: Dejana Braithwaite (2015) Vice-Chair: Meira Epplein
Task Force Chairs	
Membership	Ann Hsing
Website	Amy Leader
Development	Polly Newcomb
Career Development	Cheryl Thompson
Publications	Melissa Bondy & Amelie Ramirez
Evaluation	Frank Meyskens

ASPO Awards Through the Years

Year	Distinguished Achievement Awardee	Distinguished Service Awardee	Joseph Cullen Award in Tobacco Research
1983	Michael Shimkin		
1984	Ernst Wynder		
1985	Sam Shapiro		
1986	William Haenszel		
1987	Lester Breslow		
1988	Nicholas Petrakis		
1989	Alfred Knudson		
1990	Saxon Graham	John Weisburger	
1991	Barbara Hulka		
1992	David Schottenfeld		Ellen Gritz
1993	Joseph Fraumeni		Thomas Glynn
1994	Anthony Miller	Richard Love	Tracy Orleans
1995	Pelayo Correa		Donald Shopland
1996	Walter Willett	Al Neugut	Michael Fiore
1997	Barbara Rimer		Edward Lichtenstein
1998	Peter Greenwald		Jack Henningfield
1999	J. Potter/W.Ki Hong		John Pierce
2000	Margaret Spitz		Susan Curry
2001	I.B. Weinstein/Ellen Gritz		David Burns
2002	Robert Hoover		Jonathan Samet
2003	Leslie Bernstein		K. Michael Cummings
2004	Dave Alberts		Caryn Lerman
2005	Graham Colditz		Stanton Glantz
2006	Frank Meyskens	Carolyn Aldige	Gary Giovino
2007	Bernard Levin		Michael Thun
2008	Malcolm C. Pike		David Abrams
2009	Mitchell Gail		Ronald Davis (posthumously)
2010	Paul Engstrom		Jasjit Ahluwalia
2011	Patricia Ganz		Alex Prokhorov
2012	Electra Paskett		Stephen Hecht
2013	Polly Newcomb		Dave Wetter
2014	Bob Croyle		Vish Vishwanath
2015	Richard R. Love	Amy Trentham-Dietz	Cheryl L. Perry

Awards & Honors

Fourth Annual Calle/Rodriguez Minority Travel Awards for a Top-Ranked Abstract awardees:

1. **Kierra Barnett, BS**, Ohio State University

Cervical Cancer Prevention Services at College Health Centers: Historically Black Colleges and Universities (HBCUs) Compared to Predominantly White Institutions (PWIs)

2. **Oralia Dominic, PhD**, Highmark Health Services

Impact of a Targeted CRC Screening Intervention Among Latinos in Central Pennsylvania

Fourth Annual Electra Paskett Scholarship Travel Award for the Top-Ranked Pre- or Post-doctoral fellow:

Justin Brown, MA, CSC, University of Pennsylvania

Weight Lifting and Physical Function among Breast Cancer Survivors: A Post Hoc Analysis of a Randomized Controlled Trial

2015 ASPO Travel Awards:

1. **Vicki Hart, PhD**, University of Vermont

The effect of weight change on volumetric measures of mammographic density

2. **Seungyoung Jung, PhD**, University of Maryland

Adolescent endogenous sex hormones and breast density in early adulthood

3. **Kelly Kenzik, PhD**, University of Alabama at Birmingham

Symptoms, weight loss and physical function in a lifestyle intervention study of older cancer survivors

2015 ASPO Distinguished Achievement Awardee: Richard R. Love, MD, MS,

Amader Gram, Khulna and Rampal, Bangladesh

2015 Joseph Cullen Award in Tobacco Research: Cheryl L. Perry, PhD,

University Health Sciences Center at Houston

Sponsored by an anonymous donor recognizing the excellence and importance of tobacco research

Support Acknowledgements

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

National Cancer Institute (conference grant R13 CA196156-01)

The University of Alabama at Birmingham (UAB) and the UAB Comprehensive Cancer Center

American Cancer Society

In 2012, the American Cancer Society and American Society of Preventive Oncology announced the first annual “Calle/Rodriguez Minority Travel Award for a Top-Ranked Abstract” funded by the American Cancer Society. Drs. Jeanne Calle and Carmen Rodriguez were highly-respected epidemiologists, beloved colleagues and friends to many in the cancer research community. As Vice President of Epidemiology at the American Cancer Society, Dr. Calle was Principal Investigator of the Cancer Prevention Study (CPS)-II, a prospective study of more than one million men and women designed to identify risk factors for cancer. In particular, Dr. Calle was the lead author on widely-cited landmark studies establishing the link between obesity and cancer risk. She also guided the development and initiation of CPS-III, a study that will further our understanding of the causes of cancer and ways to prevent it for the next generation. A physician from Spain, Dr. Rodriguez was the Strategic Director of the CPS-II biospecimen repository. She published more than 100 scientific articles, with a special interest in studying ovarian and prostate cancers. Her work on the associations between hormone replacement therapy and cancer risk earned widespread media attention. Dr. Rodriguez also served as a Spanish-speaking spokesperson for the American Cancer Society. Professionally, Jeanne and Carmen were more than scientists; they were valued colleagues and committed mentors to many. Carmen and Jeanne passed away within months of each other in 2008-2009. While their deaths have been a tremendous loss, their spirits will live on in part due to the generosity of others whose donations allow the American Cancer Society to create this memorial award.

EXHIBITORS

The conference organizing committee wishes to express appreciation to :

American Institute for Cancer Research (AICR)

The American Institute for Cancer Research is a non-profit organization focusing on diet, nutrition, physical activity, and cancer. We champion the latest and most authoritative scientific research from around the world on cancer prevention and survival through diet, weight and physical activity, and help people make informed choices to reduce cancer risk.

OneFlorida Cancer Control Alliance

The OneFlorida Cancer Control Alliance infrastructure supports researchers, clinicians, patients and stakeholders in joining forces to address complex cancer control and prevention topics. Partners include University of Florida, Florida State University, University of Miami, their affiliated health systems, Agency for Health Care Administration and Florida Department of Health.

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 Sessions

This year's poster session will be Sunday, March 15th, in the 1st and 2nd floor lobby of the Wallace Tumor Institute (WTI). The posterboards will be in place by Sunday at noon. Please have your poster displayed by 4pm for judging purposes. The poster session and reception will be from 6:00pm – 8:00pm. Viewing of posters will be possible until Tuesday at noon.

A distinguished panel of senior faculty will select outstanding posters at the poster session. Awards will be announced and presented at the end of the poster 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 noon on Tuesday, March 17, will be removed and put in the registration area.*

Internet Access:

An access code is not required for guest networks. In the Wallace Tumor Institute (WTI), access can be achieved through either "CancerCenterGuest" or "UABStartHere" wireless networks. In hospital areas, such as West Pavilion, access is through the "uabhs_public" wireless network.

PLEASE HELP US PLAN FOR THE FUTURE

Please respond to the on-line survey that will be sent soon after the meeting. This will help future Program Committees and conference staff to better meet your professional and logistical needs.

NEXT YEAR . . .

The 40th Annual Meeting of the American Society of Preventive Oncology will be: **March
12--15, 2016**

**The Blackwell Hotel on the campus of
The Ohio State University, Columbus, Ohio**

New at ASPO This Year:

We have introduced several new features into the ASPO program this year. We hope this will enhance your conference experience. Please let us know what you think!

Sunday night poster session: One suggestion from last year's meeting evaluation was that we hold the poster session on Sunday night in order to facilitate networking early on in the meeting.

Poster discussion session: Rather than having four traditional paper presentation sessions, we have planned two paper sessions and two poster discussion sessions, which we hope will provide more opportunities for interaction among presenters and attendees. The poster discussion sessions will have 5 posters set up in the room. The session will start with 5-10 minutes for attendees to view the posters, and then each presenter will be given 5 min to present their poster, followed by questions and discussion. Time is also allotted at the end of the session for more general discussion.

Social media: We would like to increase ASPO's presence on social media channels such as Twitter and Facebook. Please post interesting findings and news from the meeting, and use the hashtag **#ASPO15**.

Marvelous Monday Step Challenge: This year ASPO will sponsor a step competition at the annual meeting. Everyone will receive a pedometer when they check in at the conference, and we will have a competition to see who gets the most steps on MONDAY.

GREAT PRIZES* will be offered:

- First prize – a 16GB iPad mini
- Second prize – a Fitbit
- Third prize – set of three resistance bands

TO PARTICIPATE – it's easy!

1. Wear your pedometer on your waistband all day on Monday
2. Send an email to ASPOSteps@gmail.com by 10 pm Monday evening with your total number of steps for the day.

Winners will be announced at the symposium on Tuesday morning

*Special thank you to Elizabeth Jacobs and Polly Newcomb for providing prizes for the step challenge.

ASPO 2015 PROGRAM

SATURDAY, MARCH 14, 2015

3:00 pm – 7:00 pm
Wallace Tumor Institute
(WTI) 101

**Cancer Prevention & Control Associate Directors/Program Leaders
Meeting - Part 1** (Invitation Only)
Organizer: Electra Paskett, PhD, Ohio State University

7:00 pm – 8:00 pm

Reception for AD/PL Workshop

SUNDAY, MARCH 15, 2015

8:00 am – 5:00 pm
WTI 2nd Floor Lobby
8:00 am – Noon
WTI 101

Registration

**Cancer Prevention & Control Associate Directors/Program Leaders
Meeting - Part 2** (Invitation Only)

9:30 am – 12:30 pm
WTI 201

New Investigators Workshop (Invited Applicants TBA)
Faculty: Judith Jacobson, DrPH, Columbia University (organizer)
Deborah Glueck, PhD, University of Colorado- Denver
Polly Newcomb, PhD, Fred Hutchinson Cancer Research Center
Michael Scheurer, PhD, MPH, Baylor College of Medicine

Chosen Participants:

Anna Arthur, PhD, RD, University of Alabama at Birmingham
Project: Improving dietary patterns in head and neck cancer survivors to optimize disease outcomes and supportive care: a pilot/feasibility intervention study

Sheetal Hardikar, PhD, MS, MPH, Fred Hutchinson Cancer Research Center
Project: Leukocyte telomere length differences and survival after colorectal cancer diagnosis

Kelly Kenzik, PhD, MS, University of Alabama at Birmingham
Project: Understanding multi-morbidity in cancer to enhance palliative and supportive care

Krystle Lang Kuhs, PhD, MPH, National Cancer Institute
Project: Human papillomavirus type 16 E6 antibodies as an early marker of HPV-driven cancer

Josephine Taverna, MD, University of Arizona
Project: Estrogen Metabolism Effects of Resveratrol in Postmenopausal Women with High Body Mass Index

Emily Vogtmann, PhD, MPH, National Cancer Institute
Project: The human microbiome across stages of gastric carcinogenesis: Do current microbiome methods adequately confirm that *Helicobacter pylori* causes gastric cancer?

SUNDAY, MARCH 15, 2015

12:30 pm – 3:30 pm
WTI 231

Working Lunch Meeting of the ASPO Executive Committee

(Lunch Provided)

12:30 pm - 3:30 pm
WTI 101

ASPO Junior Members Sessions (open to all attendees)

1. “The Nuts and Bolts of Successful Job Talks and Site Visits: How to Stand Out and Fit In”

Chair: Katherine W. Reeves, PhD, Univ of Massachusetts - Amherst

Co-chair: Parisa Tehranifar, DrPH, Columbia University

2. “Creating and Managing a Work-Life Balance in the Academic Environment: Strategies for Junior Investigators”

Co-Chairs: Stephanie A. Navarro Silvera, PhD, Montclair State University and Allison Burton-Chase, PhD, Albany College of Pharmacy & Health Sciences

1:30 pm – 3:30 pm
WTI 201

Meeting of NCI R25T and T32 Training Program Principal Investigators

Organizer: Shine Chang, PhD, UT MD Anderson Cancer Center

4:00 pm – 4:30 pm

OPENING SESSION OF THE ASPO GENERAL MEETING

Margaret Cameron
Spain Auditorium
(MCSA)

ASPO Welcome & President’s Address

Wendy Demark-Wahnefried, PhD, University of Alabama

Joseph Cullen Awardee Address:

“Lessons from the Cigarette Century for the Prevention of Cancer” ,

Cheryl L. Perry, PhD, University of Texas Health Science Center at Houston

Sponsored by an anonymous donor recognizing the excellence and importance of tobacco research.

5:00 pm – 5:30 pm

Distinguished Achievement Award Address:

“Thinking Big, Out of the Box and Deep”,

Richard R. Love, MD, MS, Amader Gram, Khulna and Rampal, Bangladesh

6:00 pm - 8:00 pm

Poster Session and Reception (light refreshments, cash bar)

WTI 1st and 2nd Floor
Lobby

Presentation of Best Poster Awards

Presentation of Electra Paskett Scholarship Award

Presentation of American Cancer Society Travel Awards

Presentation of ASPO Travel Awards

8:00 pm

Dinner on your own

MONDAY, MARCH 16, 2015

8:00 am – 9:30 am
WTI 101

Concurrent Breakfast Sessions

1. Special Interest Group Breakfast: Molecular Epidemiology & the Environment

“ Are Most Human Cancers Due to Bad Luck?”

Co-Chairs: Roberd (Robin) Bostick, MD, MPH, Emory University and Mack Ruffin, MD, University of Michigan

This will be a freewheeling discussion about which cancers may or may not be preventable and the implications for future population-based research and public health communications and efforts."

Location: WTI 101

West Pavilion- E

2. SIG Breakfast: Behavioral Science and Cancer Communication: “User-Generated Approaches to Cancer Prevention”

Chair & Vice Chair: Wen-Ying Sylvia Chou, PhD, MPH, National Cancer Institute and Jada Hamilton, PhD, MPH, Memorial Sloan Kettering

This interactive breakfast session will begin with a brief overview on recent scientific progress, data sources, analytic methods, and funding opportunities related to user-generated data and interventions. We will highlight some provocative examples in cancer research using user-generated content. These examples will touch upon a variety of topics in cancer prevention, from clinical trials, genetic and genomic data, to patient registries and health promotion communication. Session attendees will be encouraged to comment on and discuss the utility and implications of these user-generated approaches in behavioral science and cancer communication research. Topics to cover include: the concepts of "crowd-sourcing" and "citizen-science" (associated opportunities and cautions), underlying motivations and barriers for user participation, connection between social media and cancer research, and considerations for new and emerging methods.

Location: West Pavilion- E

9:30 am – 10:00 am

Break

MONDAY, MARCH 16, 2015

10:00 am – 11:30 am
MCSA

Symposium 1: Bugs and Tumors: The Good, the Bad, and the Ugly
Chair: James Goedert, MD, National Cancer Institute

“Epidemiologic Studies of the Microbiome and Cancer”,
James Goedert, MD, National Cancer Institute,

“Epidemiologic Studies of the Oral Microbiome and Cancer: Opportunities and Early Results”; Christian Abnet, PhD, MPH, National Cancer Institute,

“Using Metabolomics to Link the Microbiome to Cancer”;
Jonathan Braun, MD, PhD, UCLA

11:30 am – 11:45 am

Break

11:45 am – 1:00 pm
MCSA

Best Hot Topic Papers: Cancer Epidemiology, Biomarkers and Prevention (CEBP) Lunch provided

CEBP Update: Timothy Rebbeck, PhD, University of Pennsylvania

Epidemiology

Yessenia Tantamango-Bartley, MD, DrPH, MPH, Loma Linda University
Vegetarian Diets and the Incidence of Cancer in a Low-risk Population:

Tantamango-Bartley, Yessenia; Jaceldo-Siegl, Karen; Fan, Jing; Fraser, Gary

Biomarkers

Ann Hsing, PhD, Cancer Prevention Institute of California

Metabolomics in Epidemiology: Sources of Variability in Metabolite

Measurements and Implications: Sampson, Joshua N.; Boca, Simina M.; Shu, Xiao Ou; Stolzenberg-Solomon, Rachael Z.; Matthews, Charles E.; **Hsing, Ann W.**; Tan, Yu Ting; Ji, Bu-Tian; Chow, Wong-Ho; Cai, Qiuyin; Liu, Da Ke; Yang, Gong; Xiang, Yong Bing; Zheng, Wei; Sinha, Rashmi; Cross, Amanda J.; Moore, Steven C.

Prevention

Ron Myers, PhD, Thomas Jefferson University

A Randomized Controlled Trial of a Tailored Navigation and a Standard Intervention in Colorectal Cancer Screening: **Myers, Ronald E.**; Bittner-Fagan, Heather; Daskalakis, Constantine; Sifri, Randa; Vernon, Sally W.; Cocroft, James; DiCarlo, Melissa; Katurakes, Nora; Andrel, Jocelyn

1:00 pm – 1:15 pm	Break
1:15 pm – 2:45 pm MCSA	<p>Symposium 2: Moving Forward or Backward with Lung Cancer Screening? Chair: Jamie Studts, PhD, University of Kentucky</p> <p>“Avoiding Pitfalls and Maximizing Benefits from Lung Cancer Screening”, Douglas Arenberg, MD, University of Michigan</p> <p>“Implementation of Lung Cancer Screening: Lessons Learned from Early Experiences”, Peter Mazzone, MD, MPH, Cleveland Clinic</p>
2:45 pm – 3:00 pm	Break
3:00 pm – 4:30 pm	Concurrent Sessions:
MCSA	<p>Paper Session 1: Breast Cancer- Etiology, Detection and Prevention Chair: James Cerhan, MD, PhD, Mayo Clinic Location: MCSA</p>
Abstracts on following pages	<p>Acculturation and ethnic variations in breast cancer risk factors, Gail model risk estimates and mammographic breast density Parisa Tehranifar, DrPH, Columbia University</p> <p>Decision making about contralateral prophylactic mastectomy among BRCA1/2 noncarriers with newly-diagnosed breast cancer: Examining cognitive, emotional, and sociodemographic influences Jada G. Hamilton, PhD, MPH, Memorial Sloan Kettering Cancer Center</p> <p>Factors Affecting Informed Decision-Making in Women with Increased Breast Cancer Risk or DCIS Pursuing Contralateral Prophylactic Mastectomy Jessica Valente, MS, Emory University</p> <p>The effect of weight change on volumetric measures of mammographic density Vicki Hart, PhD, University of Vermont</p> <p>Depression and antidepressant use in relation to breast cancer risk in the Nurses Health Study Katherine Reeves, PhD, MPH, University of Massachusetts</p> <p>Adolescent endogenous sex hormones and breast density in early adulthood Seungyoun Jung, PhD, University of Maryland</p>

MONDAY, March 16, 2015

3:00 pm – 4:30 pm
West Pavilion-E

Poster-Discussion Session 1 (Interactive Session): E-Cigarettes

Chair: Peter Shields, MD, The Ohio State University

Location: West Pavilion- E

Abstracts on following
pages

E-cigarette and traditional cigarette use among smokers during hospitalization and 6 months later

Kathleen Harrington, PhD, MPH, University of Alabama at Birmingham

Smoking-related expectancies mediate the differences between Blacks and Whites in E-cigarette use

Mallory Cases, MPH, University of Alabama at Birmingham

E-Cigarette use among current smokers: relationships with quit attempts, quit success, perceived norms, and perceived risk

Wiley Jenkins, PhD, MPH, Southern Illinois University

Use of electronic cigarettes in an academic based quitline

Tracy Crane, MS, University of Arizona

Smokers demand for E-cigarettes: Evidence from experimental auctions

Matthew Rousu, PhD, Susquehanna University

4:30 pm – 5:30 pm
MCSA

ASPO Business Meeting (open to all)

Dr. Sally Rockey, NIH Deputy Director for Extramural Research
OD/NIH/DHHS, addresses concerns regarding new NIH biosketch

5:30 pm
MCSA

Buses/Walk to Civil Rights Museum

Buses pick up outside of MCSA

(Walking directions are provided in the early pages of this ASPO2015
Program Booklet about Birmingham)

6:00 pm – 8:00 pm
Birmingham Civil Rights
Institute

Welcome

Ray L. Watts, MD, President of the University of Alabama at Birmingham
Selwyn Vickers, MD, Dean of the UAB School of Medicine

Networking Mixer/Tour at Civil Rights Museum (appetizers)

Dinner on your own

TUESDAY, MARCH 17, 2015

8:00 am – 9:30 am
MCSA

Concurrent Breakfast Sessions

1. Special Interest Group Breakfast: Survivorship

“Strengthening Survivorship Research and Program Delivery Through Partnerships with Community Organizations”

Organizers:

Katherine Sterba, PhD, Medical University of South Carolina, and
Karen Basen-Engquist, PhD, UT MD Anderson Cancer Center

Presenters:

Madeline Harris, RN, MSN, OCN, Community Foundation of Greater
Birmingham, Director, Women's Breast Health Fund

Tony Glover, Alabama Cooperative Extension System, Cullman County
Extension Coordinator, Harvest for Health Project

Kimberly Whelan, MD, MSPH, Associate Professor of Pediatrics, University
of Alabama at Birmingham, Director, Taking On Life After Cancer Clinic and
Childhood Cancer Survivors Program

Silvia Gisiger-Camata, RN, MPH, Program Manager, Young Breast Cancer
Survivor Network, University of Alabama School of Nursing

8:00 am – 9:30 am
WTI 101

2. Special Interest Group Breakfast: Early Detection and Risk Prediction SIG

“Using Risk Information to Adjust Cancer Screening”

Organizers: Deborah Glueck, PhD, UC-Denver, and Mira L. Katz, PhD, Ohio
State University

Breast Cancer Screening for Women with Dense Breasts
Brian Sprague, PhD, University of Vermont

LuCaS Choices: A Web-based Decision Aid to Support Informed Decision-
Making About Lung Cancer Screening.

Jamie L. Studts, PhD, University of Kentucky and Margaret M. Byrne, PhD,
University of Miami

9:30 am – 9:45 am

Break

TUESDAY, MARCH 17, 2015

9:45 am – 11:45 am
MCSA

Symposium 3: From Prevention to Survivorship: Improving Outcomes in Underserved and Understudied Populations

Chair: Melinda Stolley, PhD, Medical College of Wisconsin

Prevention – “Tobacco Prevention and Control in LGBT Communities: State of the Science”, Alicia K. Matthews, PhD, UI-Chicago

Screening – “Colorectal Cancer Screening: What Will it Take to Increase Uptake in Underserved Populations?”

Electra Paskett, PhD, Ohio State University

Treatment – “Patient Care Connect: Utilizing Patient Navigation for Better Cancer Care, at Lower Cost”

Edward Partridge, MD, Director, UAB Comprehensive Cancer Center

Survivorship – “Adolescent and Young Adult Cancer: Research Needs and Potential Solutions”

Anne Kirchhoff, PhD, MPH, University of Utah

11:45 am – Noon
Noon – 1:30 pm

Break

Concurrent Lunch Programs (lunch provided)

MCSA

1) ASPO Junior Member Lunch:

NCI Session on Career Development for Doctoral Students, Postdoctoral Fellows, and Junior Faculty

Welcome: Ming Lei, PhD, Deputy Director, Center for Cancer Training, and Branch Chief, Cancer Training Branch, NCI

Individual NCI Awards for Training in Cancer Prevention Research

Susan Perkins, PhD, Deputy Branch Chief, Cancer Training Branch, NCI

Tips on Obtaining, and Making the Most of, Your K Award

Meira Epplen, PhD, Assistant Professor of Medicine (Epidemiology),
Vanderbilt-Ingram Cancer Center

The talks will be followed by a Q/A panel discussion

Noon – 1:30 pm
WTI 101

2) Mid- and Senior Faculty Development Lunch

Behavioral Interviewing: Optimizing Faculty and Staff Selection

Debra Walker, Vice-President of Healthcare Practice, Development
Dimension International, Inc.

- What to look for in a candidate
- How to collect good behavioral examples
- How to evaluate the data that is collected
- How to get to good culture fit and motivational fit
- The importance of practicing and refreshing interviewing skills

1:45 pm – 3:15 pm
West Pavilion- E

Abstracts on following
pages

**Concurrent Paper Session 3 (Interactive Poster Session) –
Obesity and Cancer**

Chair: Karen Basen-Engquist, PhD, UT M.D. Anderson Cancer Center
**Pathways of impact of a web-based program and financial incentives on
weight loss**

Jiang Li, PhD, University of California – Los Angeles

**Effects of a 16-week resistance and aerobic exercise intervention on
metabolic syndrome in overweight/obese Latina breast cancer survivors**

Christina Dieli-Conwright, PhD, University of Southern California

**Symptoms, weight loss and physical function in a lifestyle intervention
study of older cancer survivors**

Kelly Kenzik, PhD, University of Alabama at Birmingham

**Life Stressors among Urban African-American breast cancer survivors and
their impact on attendance to a behavioral intervention**

Lauren Matthews, BA, University of Illinois at Chicago

**Differences in response to weight loss in African-American and White
breast cancer survivors**

Maria Azrad, PhD, University of Alabama at Birmingham

1:45 pm – 3:15pm
WT 101

Concurrent Paper Session 4 – HPV Vaccination

Chair: Anna Giuliano, PhD, Moffitt Cancer Center

Abstracts on Following
pages

Statewide Vaccine Registry Data Indicate High Number of Missed Opportunities for the HPV Vaccine Among Eligible Girls

Deanna Kepka, PhD, University of Utah

The role of geographic factors in human papillomavirus (HPV) vaccine uptake among adolescent girls in the United States

Kevin Henry, PhD, Temple University

Cervical Cancer Prevention Services at College Health Centers: Historically Black Colleges and Universities (HBCUs) Compared to Predominantly White Institutions (PWIs) , Kierra Barnett, PhD, Ohio State University

High school females and female adolescents with other recommended vaccinations most likely to complete HPV vaccine 3-dose series

Deanna Kepka, PhD, University of Utah

HPV Vaccination among a National Sample of LGBT Young Adults in the United States, Paul Reiter, PhD, Ohio State University

Receipt of cervical cancer screening in guideline compliant intervals after HPV vaccination among young women

Jacqueline Hirth, PhD, University of Texas Medical Branch

PAPER SESSION ABSTRACTS -- Monday, March 16, 2015
Session 1: Breast Cancer: Etiology, Detection and Prevention

Parisa Tehranifar, DrPH	Jada Hamilton, PhD, MPH
<p>Acculturation and ethnic variations in breast cancer risk factors, Gail model risk estimates and mammographic breast density Tehranifar P, Protacio A, Akinyemiju TF, Schmitt K, Desperito E, Terry MB</p> <p>Breast cancer (BC) incidence varies across countries and across US ethnic groups. US Immigrants often exhibit an intermediate level of risk between those observed in their birth country and in the US. This transition of risk may partly be explained by uptake of risk factors associated with acculturation. Investigating whether immigration and acculturation risk patterns are similarly reflected in disease biomarkers can provide insight into mechanisms underlying the transition of risk. We examined differences in the distribution of BC risk factors, absolute risk estimates and mammographic density by ethnicity and acculturation. We used data from 364 women recruited from an urban mammography clinic (ages 40-64 years) to compare BC risk factors and Gail model risk estimates across US-born white, US-born African American [AA], US-born Hispanic and foreign-born Hispanic women. We used linear regression models to examine the associations of immigration and acculturation indicators (e.g., generational status, age and life stage at immigration, language use) with percent density and dense breast area, measured from mammograms. Differences in BC risk factors were mostly observed for ethnic groups, with white women having higher reproductive and lifestyle risk profiles (e.g., lower parity, older age at first birth, higher alcohol intake), Hispanics having shorter height and AAs having larger body mass index (BMI) and waist circumference. The average lifetime and 5-year Gail estimates were highest in whites (11.6% & 1.4%), intermediate in AAs (7.2% & 1.0%) and lowest in Hispanics (6.9% & 0.7% in US-born and 6.6% & 0.8% in foreign-born). After adjusting for age, BMI and parity, lower linguistic acculturation, shorter residence in the US, and later age at immigration were associated with lower percent density (all p values for trend across acculturation levels <0.05); e.g., monolingual Spanish and bilingual speakers respectively had on average 5.7% (95% CI: -10.1, -1.3) and 3.9% (95% CI: -8.3, 0.4) lower percent density than monolingual English speakers. Similar but more modest associations were observed for dense area. The increase in BC risk after immigration to the US and subsequent acculturation may operate via influences on mammographic density in Hispanic women.</p>	<p>Decision making about contralateral prophylactic mastectomy among BRCA1/2 noncarriers with newly-diagnosed breast cancer: Examining cognitive, emotional, and sociodemographic influences Hamilton JG, Salerno M, Amoroso K, Sheehan M, Harlan Fleischut M, Glogowski, Siegel B, Arnold AG, Salo-Mullen EE, Hay J, Offit K, Robson ME</p> <p>Pre-surgical BRCA1/2 genetic testing provides valuable risk information to guide a newly-diagnosed breast cancer patient's decision about whether to have a contralateral prophylactic mastectomy (CPM) to reduce her future risk of cancer in her unaffected breast. Although BRCA1/2 mutation noncarriers face a much lower objective ten-year risk of developing contralateral disease (approximately 3-10%) as compared to the risk of BRCA1/2 mutation carriers (27-37%), some noncarriers still choose to undergo a CPM. The psychosocial factors that motivate this decision are not well understood and warrant investigation. Thus, as part of a prospective study of pre-surgical BRCA1/2 testing, we examined the frequency and psychosocial correlates of the decision to undergo a CPM among newly-diagnosed breast cancer patients who were identified as BRCA1/2 mutation noncarriers. Self-report questionnaire data from 90 BRCA1/2 noncarriers (median age=43 years, range=29-59) were analyzed. A sizeable minority of the BRCA1/2 noncarriers (24.4%) chose to undergo a CPM after learning their mutation status (compared to 88% of the 8 BRCA1/2 carriers in the sample). Both bivariate and multivariable analyses indicated that perceiving that one's physician had recommended CPM (OR=11.17, p=0.007), perceiving greater risk for contralateral breast cancer (OR=6.46, p=0.02), and perceiving greater pros of CPM (OR=1.37, p=0.004) were all significantly associated with noncarriers' decision to undergo CPM. However, factors including age, Ashkenazi Jewish ethnicity, breast cancer-related distress, perceived cons of CPM, and decisional conflict regarding CPM were not related to the CPM decision (all ps>0.05). Results demonstrate that although noncarriers' decision making regarding CPM was unrelated to sociodemographic and emotional factors, their cognitive perceptions of contralateral disease risk, surgical benefits, and physician recommendations were particularly important. Future studies should examine the content of patient-physician communication regarding CPM and hereditary risk in greater detail, and explore how these conversations shape and interact with women's past experiences, emotions, and beliefs to influence their cancer prevention decisions.</p>

Jessica Valente, MS	Vicki Hart, PhD
<p>Factors Affecting Informed Decision-Making in Women with Increased Breast Cancer Risk or DCIS Pursuing Contralateral Prophylactic Mastectomy Valente J, Styblo T, Hyde S, Lipscomb J, Gillespie TW</p> <p>Despite lack of survival benefit, an increasing number of women diagnosed with ductal carcinoma in situ (DCIS) opt for removal of the unaffected breast in addition to the breast with known pathology, i.e. contralateral prophylactic mastectomy (CPM). Little is known about women's decision-making processes that contribute to this rising trend, particularly for DCIS. Further obscuring the decision is the highly variable terminology used to discuss breast cancer pathologies and treatments. The purpose of this study was to investigate factors impacting risk comprehension and decision-making related to increased risk for breast cancer or DCIS. We conducted a retrospective and prospective pilot study to evaluate women's perceived contralateral breast cancer risk, health literacy, numeracy, and comprehension of terms used in genetics and breast cancer. Clinical data such as breast MRI, genetic testing, family history, and breast cancer risk derived from predictive models were also collected. Women with DCIS and those high-risk for development of invasive breast cancer were eligible, and 68 patients participated. Of the cohort, 33 (48.5%) women considered pursuing CPM and 11 (16.2%) underwent CPM. Anxiety about cancer recurrence was the top reason for considering CPM. Undergoing CPM was significantly associated with plastic surgery consultation, increased 10-year breast cancer risk, genetic counseling, and genetic testing. The consideration of CPM was also associated with higher incomes. Numeracy, health and genetic literacy, and terminology scores were not significant predictors of CPM. Lastly, 83.8% of respondents stated DCIS qualified as breast cancer, but only 39.7% of patients correctly defined DCIS. When asked to interpret the phrase "indolent lesion of epithelial origin" (new terminology advocated to replace "DCIS"), 27.9% of respondents believed it referred to cancer, 47.1% did not, and 23.5% were unsure. Patients commonly thought "lesion" meant "skin wound" or "sore". Decision-making related to DCIS remains complex. Although CPM has not shown a survival advantage and can have significant complications, CPM rates continue to rise. Recognizing patients' knowledge of risk communication and terminology is vital to support shared and informed surgical decisions.</p>	<p>The effect of weight change on volumetric measures of mammographic density Hart V, Reeves KW, Sturgeon SR, Reich NG, Sievert LL, Kerlikowske K, Ma L, Sprague BL</p> <p>The association between changing body mass index (BMI) and mammographic breast density is important to better evaluate how to adjust for BMI gain/loss in longitudinal studies of density and breast cancer risk. Increasing BMI has been associated with decreasing percent dense area but the effect on absolute dense area is unclear. No studies have explored a longitudinal association using volumetric density measurement. Methods: We examined the association between change in BMI and change in volumetric breast density among 24,556 women who received breast imaging at the San Francisco Mammography Registry from 2007-2013. Height and weight were self-reported at the time of mammography. Breast density was assessed using single x-ray absorptiometry (SXA) volumetric measurement. The cross-sectional and longitudinal associations between BMI and absolute dense volume (DV) and percent dense volume (PDV) were assessed using multivariable adjusted regression. Results: Women were primarily Caucasian (66%) or Asian (25%) and most were postmenopausal (64%) at time of first mammogram. In cross-sectional analysis, BMI was positively associated with DV ($\beta=2.95$ cm³, 95% CI 2.69, 3.21) and inversely associated with PDV ($\beta=-2.03\%$, 95% CI -2.09, -1.98). In longitudinal analysis, an annual increase in BMI was associated with an annual decrease in both DV ($\beta=-1.01$ cm³/year, 95% CI -1.59, -0.42) and PDV ($\beta=-1.17\%$/year, 95% CI -1.31, -1.04). Findings were consistent between pre- and postmenopausal women. The annual decrease in DV was strongest among premenopausal women who were initially overweight or obese ($p<0.01$ for interaction by initial BMI). Conclusion: Our findings support a inverse association between change in BMI and change in PDV. Longitudinal studies of PDV and breast cancer risk, or those using PDV as an indicator of breast cancer risk, should consider adjusting for change in BMI. The association between increasing BMI and decreasing DV is unexpected and will require confirmation using volumetric methods.</p>

Katherine Reeves, PhD, MPH	Seungyoun Jung, PhD
<p>Depression and antidepressant use in relation to breast cancer risk in the Nurses' Health Study Reeves KW, Okereke O, Qian J, Hankinson SE</p> <p>Depression and antidepressant (AD) use have each been hypothesized to increase breast cancer risk, yet previous studies have not considered these exposures together. Thus, it is unclear whether increased risk due to depression may actually be attributable to AD use, or vice versa. Methods: We utilized data from 77,482 women enrolled in the prospective Nurses' Health Study cohort in which data on depression and AD use were collected simultaneously beginning in 2000. Women self-reported whether they had ever been diagnosed with depression by a clinician as well as their use of specific types of ADs. Self-reported breast cancer cases through 2012 were adjudicated and only confirmed invasive cases included as outcomes (N=2,567). Logistic regression models were utilized to evaluate the effects of baseline depression and AD use, both independently and with mutual adjustment, on breast cancer risk. Results: The average age of participants was 66.2 (SD 7.1) years; 8.9% were clinically depressed and 8.7% used ADs. In separate models adjusted for age, body mass index, and menopausal status, we observed no statistically significant associations between depression (OR 0.94, 95% CI 0.81-1.08) or AD use (OR 1.07, 95% CI 0.93-1.22). When these exposures were included together in the same model, depression remained unassociated with breast cancer risk (OR 0.87, 95% CI 0.74-1.03) while AD use exhibited a small, borderline significant increase in risk (OR 1.15, 95% CI 0.98-1.35). The latter association remained consistent for selective serotonin reuptake inhibitors (SSRIs; OR 1.16, 95% CI 0.96-1.39) but was not apparent for other classes of ADs (OR 1.07, 95% CI 0.85-1.35). Conclusions: These initial results indicate that depression is not associated with breast cancer risk, while we could not exclude a slight increase in risk associated with SSRI use. Further analyses will update exposure information over follow-up and also evaluate whether associations differ by menopausal status or hormone receptor disease subtypes. Clarifying the effects of these exposures on breast cancer risk will provide critical information for the millions of women who are depressed and/or use ADs.</p>	<p>Adolescent endogenous sex hormones and breast density in early adulthood Jung S, Eggleston LB, Chandler DW, Horn LV, Hylton MN, Paris K, Klifa CC, Lasser NL, Le Blanc ES, Shepherd JA, Snetselaar LG, Stanczyk FZ, Stevens VJ, Dorgan JF</p> <p>During adolescence the breasts undergo rapid growth and development under the influence of sex hormones. Although the hormonal etiology of breast cancer is hypothesized, it remains unknown whether adolescent sex hormones are associated with adult breast density, which is a strong risk factor for breast cancer. METHODS: Percentage of dense breast volume (%DBV) was measured in 2006 by magnetic resonance imaging in 177 women aged 25-29 years who participated in the Dietary Intervention Study in Children from 1988-1997 and had sex hormones and sex hormone binding globulin (SHBG) measured in serum collected on 1-4 occasions between 8 and 17 years of age. Multivariable linear mixed-effect regression models were used to evaluate the associations of adolescent sex hormones and SHBG with %DBV. RESULTS: Dehydroepiandrosterone sulfate (DHEAS) and SHBG measured in premenarche serum samples were significantly positively associated with %DBV (all $P_{trend} \leq 0.03$) but not when measured in postmenarche samples (all $P_{trend} \geq 0.42$). The multivariable geometric mean of %DBV across quartiles of premenarcheal DHEAS and SHBG increased from 16.7% to 22.1% and from 14.1% to 24.3%, respectively. Estrogens, progesterone, androstenedione, and testosterone were not associated with %DBV pre- or post-menarche (all $P_{trend} \geq 0.16$). CONCLUSIONS: Our results suggest that higher DHEAS and SHBG levels during adolescence, particularly before the onset of menarche, are associated with higher %DBV in young women. Whether this association translates into an increased risk of breast cancer later in life is currently unknown.</p>

PAPER SESSION ABSTRACTS - Monday, March 16, 2015

Interactive Poster Session 1 - E-Cigarettes

Kathleen Harrington, PhD, MPH	Mallory Cases, MPH
<p>E-cigarette and traditional cigarette use among smokers during hospitalization and 6 months later Harrington KF, Cheong J, Hendricks, Kohler C, Bailey WC</p> <p>Use of electronic nicotine delivery systems, most commonly called e-cigarettes (e-cigs,) has been rising over the past few years, with the greatest use among traditional cigarette smokers. The utility and harm of this group of emerging tobacco products are under debate. While some propose them as novel tobacco cessation tools, others decry their potential for sustained addiction and negative health effects. We examined smokers' e-cig use and smoking behaviors at hospitalization and 6 months later. Methods: 979 smokers hospitalized at a tertiary care medical center were recruited to a longitudinal observational study and provided baseline data during hospitalization and 6-months later. Past 30-day (current) e-cig use and smoking rates at both baseline and 6-month follow-up were examined with t-tests. Chi square test examined baseline e-cig use and 6-month smoking status. Results: 823 (84.1%) participants provided data at both time points: mean age was 46 years; 53.6% were White, 44.0% were Black, and 2.5% other; 22.5% had less than a high school degree, 38.8% had a high school diploma/GED, and 38.7% had some college or more; 30.8% were married/domestic partner and 53.6% were male. Current e-cig use was reported by 171 (20.7%) at baseline and 246 (29.9%) at 6-month follow-up, with 98 (11.9%) reporting current e-cig use at both time points. At 6-months follow-up, 12.2% of baseline current e-cig users vs. 13.4% of baseline non-users reported quitting smoking ($p=.80$), with 22% of baseline e-cig users who quit still using e-cigs at 6-months follow-up. Baseline current e-cig users reported higher daily cigarette consumption (14.1 vs. 11.9; $p=.010$) at baseline but not 6-months later (10.3 vs. 9.8; $p=.619$); whereas, continuing smokers with current e-cig use at 6 months follow-up reported fewer cigarettes per day (8.4 vs. 10.5; $p=.008$). Conclusions: Among adult smokers, current e-cig use at hospitalization was associated with higher cigarette consumption at baseline but was not predictive of quitting or consumption (among continuing smokers) at 6-months follow-up. Further, current e-cig use at 6 months was associated with a greater reduction in cigarettes smoked per day among continuing smokers at 6-months after hospitalization.</p>	<p>Smoking-related Expectancies Mediate the Differences between Blacks and Whites in E-cigarette Use Cases MG, Cheong J, Harrington KF, Kohler CL, Bailey WC, Hendricks PS</p> <p>Blacks appear to be less likely to use electronic cigarettes (e-cigarettes) than Whites. Although the public health hazard and/or utility posed by e-cigarettes are matters of ongoing debate, a better understanding of the mechanisms driving this racial disparity can help inform tailored interventions designed to modify e-cigarette use among Blacks and Whites alike. The objectives of the current study were to test whether differences between Blacks and Whites in e-cigarette use might be accounted for by differences in expectancies for tobacco cigarette smoking cessation and expectancies for e-cigarette use. Methods: Baseline and six-month follow-up data from a one-year longitudinal observational study were analyzed. The setting was a tertiary care academic center hospital in the Southeastern U.S. Participants were 409 Black and 543 White hospitalized tobacco cigarette smokers. The Smoking Abstinence Questionnaire, a measure of expectancies for the process of tobacco cigarette smoking cessation, and the e-cigarette specific Brief Smoking Consequences Questionnaire, a test of e-cigarette use expectancies, were administered at baseline. Past 30-day e-cigarette use (yes or no) and number of days used e-cigarettes in past 30 days were assessed at 6 months (follow-up rate ~ 84%). Mediation analyses evaluated the potential mechanisms of racial disparity in e-cigarette use through expectancies. Results: Blacks' greater expectancies for certain adverse effects (e.g., social ostracization) upon ceasing tobacco cigarette use and weaker expectancies that e-cigarettes reduce negative affect accounted for their reduced past 30-day e-cigarette use relative to Whites. In addition, Blacks reported weaker expectancies that e-cigarette use is stigmatizing, which was associated with an increase in e-cigarette use. Blacks' greater expectancies that coping with withdrawal symptoms upon quitting tobacco cigarette use would be easy and uncomplicated and weaker expectancies that e-cigarette use reduces negative affect accounted for their reduced number of days used e-cigarettes in the past 30 days compared to Whites. Conclusion: Blacks may be less likely to use e-cigarettes than Whites because they are more likely to anticipate adverse effects such as social ostracization when they quit tobacco cigarette use, more likely to expect an easy time coping with smoking withdrawal effects, and less likely to expect that e-cigarettes reduce negative affect. Targeting these expectancies may prove useful in modifying e-cigarette use among Blacks and Whites alike.</p>

Wiley Jenkins, PhD, MPH	Tracy Crane, MS
<p>e-Cigarette use among current smokers: relationships with quit attempts, quit success, perceived norms, and perceived risk Crumly D, Fogleman A, Waters EA, Jenkins WD</p> <p>Electronic cigarette (e-cig) use is skyrocketing, with concern that e-cig use might discourage cigarette smokers from quitting by normalizing their use and reducing perceptions of harm. METHODS Cross-sectional survey of 2014 Illinois State Fair attendees. RESULTS There were 234 current cigarette smokers and 51.7% (121) were current e-cig users. Smokers were: 50.9% male; 77.4% white and 18.8% black; averaged 34.8 years of age; 12.5% were 4 year college graduates; and 36.8% had income \geq \$20,000. E-cig use among smokers did not vary by gender, race, age, education, or income. E-cig users were no more likely than former/never e-cig users (non-users) to have: attempted to quit in the past year (53.8% vs. 46.2%); considered quitting in the next 30 days (32.2% vs. 26.8%) or 6 months (72.7% vs. 67.0%); or believed they could succeed if they decided to quit (69.4% vs. 67.0%). No differences between e-cig users and non-users were found for measures of a) acceptance by family, friends and the community or b) perceptions of health risks. As a group, e-cig users were more likely to perceive that e-cigarettes were less harmful (53.3% vs. 22.3%; $p < 0.001$): specifically among males ($p < 0.001$), females ($p = 0.029$), those with income $> \\$20,000$ ($p < 0.001$), those of white race ($p < 0.001$), and those with high school or some college ($p < 0.001$ and $p = 0.001$, respectively). As a group e-cig users overall did not differ from non-users in the belief that that breathing other people's smoke was very/somewhat harmful (86.7% vs. 93.7%), a significantly lower proportion of racial/ethnic minorities (72.7% vs. 96.6%; $p = 0.034$) did so. Finally, while the proportion of e-cig users who also smoked 11+ cigarettes a day did not differ from non-users overall (45.5% vs. 55.4%), significant differences were observed among racial/ethnic minorities (9.1% vs. 37.9%; $p = 0.025$) and those with only a high school education (32.8% vs. 53.1%; $p = 0.032$). CONCLUSIONS E-cigs are used by approximately half of smokers; use does not vary by multiple customary demographic variables; and use is not associated with different rates of quit attempts, measures of perceived social norms, or perceived risk. Racial/ethnic minority e-cig users were distinct for several important perceptions and smoked less than their white peers.</p>	<p>Use of electronic cigarettes in an academic based quitline Crane TE, Thomson CA, Holloway DA, Heiser JL, Manziello AM, Brady BR, Reikowsky RC</p> <p>The purpose of this study is to describe electronic cigarettes (e-cigarette) users who contact and enroll in an academic based quitline, the Arizona Smokers' Helpline (ASHLine), for tobacco cessation services. Methods: Descriptive analyses were performed on all ASHLine clients who enrolled in quitline services between April 1 and August 30, 2014 ($n = 2,059$), stratified for e-cigarette use for comparison. Demographic profiles, tobacco dependency (as measured by the Fagerstrom Dependence Score) at the time of enrollment and program success measures were also analyzed. Results: Fifteen percent ($n = 312$) of all clients who enrolled in services during the specified time period reported using e-cigarettes. A higher proportion of users were female, younger (47.5 versus 49.9 years, $p < .01$), had a post-high school education and identified themselves as non-Hispanic white. Significant differences ($p < 0.05$) were found in the average nicotine dependency score (Fagerstrom) with e-cigarette users reporting smoking 17.8 cigarettes per day as compared to 16.6 cigarettes per day in non-e-cigarette users ($p = 0.10$). E-cigarette users demonstrated a higher in-program 30-day quit-rate (57%) compared to non-users (51%) although results were not statistically significant ($p = 0.10$). Additionally, approximately 17% of e-cigarette users identified themselves as having a history of cancer. Conclusions: As e-cigarette use increases important questions about their safety as well as potential role in the quit process need to be answered. Quitlines are a useful resource for establishing intake and for follow-up of quit success, providing valuable information to inform on future recommendations for e-cigarettes use in tobacco cessation planning.</p>

Matthew Rousu, PhD	
<p>Smokers Demand for E-cigarettes: Evidence from Experimental Auctions Rousu MC, O'Connor R, Bonsol-Travers M, Vogl L, Corrigan JR</p> <p>The constantly evolving tobacco market present opportunities and challenges for public health. New products, like e-cigarettes, may present less health hazard than cigarettes, but research is needed to examine the extent to how broader adoption of these products could impact the health of millions of Americans, along with smokers' demand for e-cigarettes. In this paper, we use experimental auctions to examine the influence of television advertising on willingness to pay for e-cigarettes and cigarettes in an experimental auction. We conducted an experimental auction with 424 smokers from Buffalo, NY and Selinsgrove, PA between March-October 2014. Smokers in the study placed bids on cigarettes, an e-cigarette starter kit, and a single-use e-cigarette. Results should give insight into factors that affect smokers' demand for e-cigarettes. Methods Experimental auctions have exploded in popularity in agricultural economics and have recently been used to examine issues with tobacco use. They have the benefit of providing a non-hypothetical willingness to pay, i.e., participants actually pay for products if they win the auction. We conducted experimental auctions of cigarettes and electronic cigarettes (e-cigarettes) with smokers who were not e-cigarette users. After the auctions, we contacted those same auction participants with follow up phone calls 2 weeks after the auction, 6 weeks after the auction, and 6 months after the auction to assess e-cigarette use. Results and conclusion At this point – we have completed the auctions, the 2-week follow up phone calls and the 6- week follow-up phone calls and data has been entered (but not yet analyzed) for the auctions but not the follow up calls. The bid prices are included below. The initial analysis will begin in mid-December 2014 and we expect to have written a draft by January 31st, 2015. This paper will help researchers in understanding the impact of experimental auctions on future demand for products. Overall --Control Group-- Print Ad only--Video Ad Only--Print and Video Ad Bid for cigarettes \$3.78 \$4.21 \$3.79 \$3.34 \$3.91 Bid for single-use smokeless tobacco \$3.67 \$3.79 \$3.62 \$3.32 \$4.01 Bid for smokeless tobacco starter kit \$8.68 \$8.47 \$7.65 \$8.41 \$10.28</p>	

PAPER SESSION ABSTRACTS -- Tuesday, March 17, 2015

Interactive Poster Session 3 – Obesity & Cancer

Jiang Li, PhD	Christina Dieli-Conwright, PhD
<p>Pathways of Impact of a Web-based Program and Financial Incentives on Weight Loss Li J, Linnan L, Finkelstein EA, Tate D, Evenson KR, Ennett S</p> <p>Conducting a mediation analysis can identify pathways of program effects and provide information for developing effective interventions for obesity - a preventable cause of many common cancers. This presentation will examine the role of autonomous motivation, controlled motivation, eating self-efficacy, and physical activity self-efficacy in mediating the relationship between the effects of a web-based weight loss program (with or without financial incentives) on healthy eating, physical activity, and weight loss. Method: In a group randomized trial, 17 community colleges were randomly assigned to one of three interventions: Environment Only (E), Environment + Web-based Program (E+WEB), or Environment + Web-based Program + Incentives (E+WPI). Data were compiled from employee surveys and measurements completed at baseline, 3, 6, and 12 months. Structural equation analysis of theoretical models evaluated whether psychological constructs mediated the intervention effects on weight loss. Results: The sample consisted of 1004 overweight and obese employees and was 82.2% female, 83.2% White, 46.9 years old, and weighed 204.4 pounds at baseline on average. Autonomous motivation to participate in a weight loss program mediated the relationship between E+WPI intervention and weight loss as well as the relationship between E+WPI intervention and reduction in total calories. Healthy eating self-efficacy at 3 months was significantly associated with improved diet habits at 6 months (proportion of calorie intake from fat: $\beta = -0.13$, $p = .025$; daily servings of fruit and vegetables: $\beta = 0.14$, $p = .042$), and weight loss at 12 months ($\beta = -0.108$, $p = .002$). Physical activity self-efficacy at 3 months was positively associated with physical activity at 6 months ($\beta = 0.358$, $p = .007$). Conclusions: The effects of E+WPI on weight loss were mediated by enhanced autonomous motivation that reflected personal interests and values to participate in a weight loss program. Higher eating and physical activity self-efficacy were associated with desirable changes in nutrition, physical activity and weight. These results indicate that future interventions designed to improve healthy eating, increase physical activity, or achieve weight loss should target autonomous motives and self-efficacy related to healthy eating and physical activity.</p>	<p>Effects of a 16-week Resistance and Aerobic Exercise Intervention on Metabolic Syndrome in Overweight/Obese Latina Breast Cancer Survivors Dieli-Conwright CM, Mortimer JE, Spicer, Tripathy D, Buchanan T, Demark-Wahnefried W, Bernstein L</p> <p>This randomized controlled trial was designed to assess the effects of a 16-week combined (aerobic and resistance) exercise intervention on metabolic syndrome (MetS) in overweight and obese Latina breast cancer survivors (LBCS). MetS is associated with increased risk of cardiovascular diseases, type 2 diabetes, and possibly cancer recurrence, and is defined by increased waist circumference (WC), elevated blood glucose (BG), high triglycerides (TG), low high-density lipoprotein cholesterol (HDL), and elevated blood pressure (BP). Methods. Forty LBCS (BMI ≥ 25 kg/m²) were recruited from the USC Lee Breast Clinic and Los Angeles County Hospitals. Participants were randomized to either the Control (CON; n=20) or the Exercise (EX; n=20) groups. Participants were tested for MetS outcomes including BP, WC, fasting levels of FBG, HDL, and TG at baseline, post-intervention, and 12-weeks post-intervention (EX group only). The EX group participated in aerobic and resistance exercise sessions 3 times a week for 16 weeks, supervised by an exercise specialist at the WHEL. Aerobic exercise included cycling, walking, or jogging at 65-85% heart rate maximum. Resistance exercise was performed in circuit-fashion with 3 sets of 10-15 repetitions including upper and lower body exercises at 65-70% 1-repetition maximum. The CON group was asked to maintain less than 120 min/week of exercise during the study period. Repeated measures ANOVA was used to test for statistically significant between-group differences in MetS. Results. There were no significant group differences in MetS between the EX and CON groups at baseline ($p > 0.01$). However, post-intervention, all MetS components were significantly lower in the EX group than the CON group ($p < 0.01$). Further, in the EX group, MetS at 12-week post-intervention was not statistically different from post-intervention ($p > 0.01$). Conclusions. A 16-week supervised resistance and aerobic exercise intervention attenuated MetS in overweight and obese LBCS. Further, reductions in MetS components were maintained following the completion of the intervention, suggesting that the benefits of the intervention on MetS were sustainable in the absence of a supervised intervention.</p>

Kelly Kenzik, PhD	Lauren Matthews, BS
<p>Symptoms, weight loss and physical function in a lifestyle intervention study of older cancer survivors Kenzik KM, Morey MC, Cohen HJ, Sloane R, Demark-Wahnefried W</p> <p>Cancer is most often a disease of aging, and frequently, a disease for which obesity serves as a risk factor. Thus, many cancer survivors are older, overweight or obese, with higher illness burden, symptoms, and comorbidities. Against this backdrop, survivors are at increased risk for functional decline. The question is whether lifestyle interventions can still benefit older, sicker survivors? The purpose of this study was to examine how overweight long-term survivors' symptom severity prior to a diet and exercise intervention is associated with post-intervention function and to determine symptoms' effects on function through change in physical activity, diet quality, and weight status. Methods This is a secondary data analysis of 514 breast, prostate, and colorectal cancer survivors who participated in the one-year home-based diet and exercise intervention, Reach-Out to Enhance Wellness (RENEW) trial. Pre- and post-intervention data were analyzed. Measures of this study included pre-intervention symptoms, changes in weight, physical activity, diet quality, and post-intervention overall physical function (PF), and basic and advanced lower extremity function (BLEF and ALEF). Simple and serial mediation analyses were conducted to examine direct effects of symptom severity on BLEF and ALEF and the indirect effects of symptom severity through changes in diet quality, physical activity, and weight status. Results Increased symptom severity was directly associated with lower functioning scores for PF ($b=-0.63$ $p<0.001$), BLEF ($b=-0.33$, $p<0.001$) and ALEF ($b=-0.22$, $p<0.001$). Indirect effects of symptom severity through weight loss, physical activity and diet were not significant. Weight loss and increased physical activity were significantly associated with higher PF and ALEF and higher diet quality was associated with higher BLEF. Conclusion Symptom severity of older, overweight cancer survivors negatively affects physical function. However, greater weight loss and physical activity were associated with higher functioning scores, regardless of symptom severity. Findings build from the recent emphasis on the negative effects of obesity on survivor outcomes to highlight weight loss as an important factor in maintaining function in older cancer survivors.</p>	<p>Life Stressors among Urban African-American breast cancer survivors and their impact on attendance to a behavioral intervention Matthews L, Schiffer L, Arroyo C, Dakers R, Strahan D, Stolley M</p> <p>To describe urban life stressors among African-American breast cancer survivors (AABCS) participating in the Moving Forward community-based weight loss intervention trial; and to explore the association with attendance among those in the treatment group. Methods. Study population included 116 overweight/obese AABCS with diverse economic and educational backgrounds. Inclusion criteria included: Stage I, II, III breast cancer, BMI > 25 kg/m², > 6-months post-treatment, and ability to participate in moderate physical activity. Women randomized to the treatment group (n=59) attended a twice-weekly 6-month weight loss program. Those in the control group (n=57) received a curriculum binder that guided them through the weight loss program. Urban life stress was measured with an abbreviated version of the Crisis in Family Systems (CRISYS) by interview post-intervention. The measure includes 41 events related to financial, relationship, home, safety in home and community, medical concerns for self or family, and career and authority stress. Results. Mean number of stressful events was 4.6 (SD=3.5, range 0-18). The most commonly occurring stressors were financial. For example, 22% suffered a large decrease in income and 17% had their electricity cut off. Relationships were also a common stressor with 78% reporting the death of a friend or family member and 18% reporting that a family member had gone to jail. Safety (i.e., 41% had something happen in their neighborhood that made them feel unsafe) and medical concerns (i.e., 35% had a family member become ill) were also common. Stress related to events with authority or prejudice was the least commonly reported. Number/types of stressors did not differ between treatment and control groups. Average attendance among those in the treatment group was 60% or 27/45 classes, with 9% attending less than 25% and 68% attending 50% or more. Spearman correlations coefficients between attendance and number/type of stressors were not significant. Conclusions. Despite facing a number of stressors, women's attendance to a behavioral intervention was not impacted. Exploration of other factors influencing attendance among underserved communities to interventions is needed.</p>

Maria Azrad, PhD	
<p>Differences in response to weight loss in African-American and White breast cancer survivors</p> <p>Azrad M, Blair CK, Sedjo R, Rock C, Demark-Wahnefried W</p> <p>The purpose of this study was to explore potential racial differences in the change in body mass index (BMI) and percent weight loss among overweight/obese African-American (AA) and White breast cancer survivors participating in a weight loss trial. Methods: Participants were enrolled in the Exercise and Nutrition to Enhance Recovery and Good health for You (ENERGY) study, a two-year trial designed to induce weight loss through either intensive group-based lifestyle modification or less intensive standard of care. Body weight was assessed at baseline and every 6-month. For this analysis, a subset of participants was selected and matched on BMI and age at baseline (AA n=37 and White n=74). Differences in the change over time in BMI and percent weight loss between AA and White breast cancer survivors were determined using mixed models adjusted for age, physical activity, study arm and time. Results: Overall mean (95% CI) age, BMI and body weight at baseline was 55.1 years (53.5 years, 56.8 years), 32.4 (31.6, 33.3) and 87.4 kg (85.3 kg, 90.3 kg), respectively. The change in BMI between AA vs. Whites was different although this did not reach statistical significance [least squared means (LSM) 95% CI, AA: 32.6 (31.1, 34.1) and Whites: 31.2 (30.1, 32.2), p=0.125]. In additional analysis, a significant race x time interaction was observed suggesting that over the two-year trial, change in BMI was significantly different between AA vs. Whites (p=0.047). The change in LSM percent weight loss was significantly different between AA vs. Whites [-1.48 (+0.08, -3.05) and -3.78 (-2.68, -4.88), p=0.019, respectively). The interaction between percent weight loss x time was not significant. Conclusions: Obesity and AA ethnicity are both associated with increased risk for breast cancer recurrence and mortality. Therefore, we hypothesize that weight loss may potentially improve breast cancer outcomes and increase survival in this vulnerable population. Based on this exploratory study, there may be differences in the response to weight loss in AA breast cancer survivors compared Whites. Future weight loss trials that are tailored to AA breast cancer survivors should be explored.</p>	

PAPER SESSION ABSTRACTS -- Tuesday, March 17, 2054

Paper Session 4 – HPV Vaccination

Deanna Kepka, PhD	Kevin Henry, PhD
<p>Statewide Vaccine Registry Data Indicate High Number of Missed Opportunities for the HPV Vaccine Among Eligible Girls Kepka D, Balch A, Warner E, Spigarelli M</p> <p>To investigate the rate of missed opportunities for the HPV vaccine among eligible girls using statewide vaccine registry data. Methods: Using data from the Utah Statewide Immunization Information System (USIIS) from 2008-2012 for approximately 55,000 girls ages 11-18, we assessed the frequency of missed opportunities (receipt of other recommended vaccinations such as Tdap, MCV4, and/or flu and not the HPV vaccine) among eligible female patients for the HPV vaccine. USIIS is a free, confidential, web-based information system that contains immunization histories for Utah residents of all ages. Records of all persons born in Utah since 1998 are in USIIS. USIIS is designed to help enrolled healthcare providers track immunization records for patient care by consolidating immunizations from enrolled providers into one centralized record. Vaccine administration from 86% of healthcare providers in Utah is reported to USIIS. USIIS data used for the study include date of birth, age, gender, ethnicity and race, zip code, and date and type of vaccine received. Descriptive statistics and chi-square tests were used to assess rate of missed opportunities for the HPV vaccine and associated demographic factors. Results: Approximately 65% of preteens (ages 11-12; N=2,593) and 32% of female teens (ages 13-18; N=4,937) had a missed opportunity for the HPV vaccine between years 2008-2012 in Utah ($p<.001$). Race and ethnicity related to rates of missed opportunities for the HPV vaccine among all girls ages 11-18 (Whites=36%, N=2,454; Hispanics=21%, N=254) ($p<.001$). Rural and urban locations were also associated with rates of missed opportunities for the HPV vaccine (urban=31%, N=4,448; large rural town=42%, N=202) ($p<.001$). Conclusions: For more than eight years, a vaccine to prevent cervical and other HPV-related cancers has been available, yet receipt of the 3-dose HPV vaccine in the United States is far below national goals for girls (33% vs. 80%; actual vs. target). Using statewide vaccine registry data, our study demonstrates that administering the HPV vaccine when providing other recommended adolescent vaccinations may dramatically improve rates of HPV vaccination among girls in a state with low HPV vaccine uptake. In addition, targeting rural communities and non-Hispanic White patients may further reduce missed opportunities.</p>	<p>The role of geographic factors in human papillomavirus (HPV) vaccine uptake among adolescent girls in the United States Henry KA, Warner EL, Diang Q, Kepka D</p> <p>There has been limited research examining the role of geographic factors in human papillomavirus (HPV) vaccine uptake among adolescent girls. This study is one of the first studies to investigate and identify community-level geographic factors that may be associated with HPV vaccine uptake in the United States. Methods We analyzed data from the 2011 and 2012 National Immunization Survey-Teen to examine associations of HPV vaccine initiation (receipt of at least one dose based on healthcare provider records) among female adolescents aged 13 to 17 years (N=20,565) with ZIP code level geographic factors that were linked to the survey. Analyses were conducted using weighted logistic regression that included state-random effects. Results HPV vaccine initiation was approximately 53% in both 2011 and 2012. Racial composition and urban/rural residence were both independently associated with vaccine initiation ($p<.05$). Initiation was higher among girls living in communities where the majority (> 50%) of the population was Hispanic compared to communities where the majority of the population was non-Hispanic white (69.0% vs 49.9%; Adjusted Odds Ratio (AOR) 1.55, 95% CI 1.33-1.80). Girls living in high population density areas (urban) had higher HPV vaccine initiation compared to those living in low population density areas (rural) (56% vs 44.6%; AOR 1.37, 95%CI 1.13-1.65). Initiation was also higher among girls living in the most impoverished communities compared to girls living in the least impoverished communities (61% vs 50.4%), but community-level poverty was not significant in the adjusted analysis. Conclusion Higher HPV vaccination coverage in poor urban communities with a high proportion of racial/ethnic minorities may be partly attributable to targeted interventions and the continued effectiveness of the Vaccines for Children program (VFC), which provides recommended vaccines at no cost to eligible children. Learning more about factors that influence higher HPV vaccination initiation rates among certain groups might inform intervention strategies for groups with lower initiation rates.</p>

Kierra Barnett, BS	Deanna Kepka, PhD
<p>Cervical Cancer Prevention Services at College Health Centers: Historically Black Colleges and Universities (HBCUs) Compared to Predominantly White Institutions (PWIs)</p> <p>Barnett KB, McRee AL, Reiter PL, Paskett ED, Katz ML</p> <p>Cervical cancer (CC) incidence and mortality rates are increased among African American women. We sought to examine the availability of CC prevention services, such as the HPV vaccine and Pap tests, at college health centers among Historically Black Colleges and Universities (HBCUs) compared to Predominantly White Institutions (PWIs). Methods: We analyzed data from a sample of colleges and universities identified using the National Center for Education Statistics' College Navigator tool. Identified HBCUs were matched with a randomly selected four year PWI within the same state, resulting in an analytic sample of 162 colleges and universities. We collected data on health services and institutional characteristics via the institutions' websites, the College Navigator Tool, and by telephone interviews with health centers. We examined whether institutions provided HPV vaccine or Pap tests to students and identified correlates of each using logistic regression. Results: A total of 131 (81%) colleges and universities had operating health centers, of which 121 (92%) were successfully contacted via telephone. HBCUs were less likely than PWIs to offer the HPV vaccine (21% vs.46%; p-value < 0.05) or Pap tests (49% vs. 67%; p-value <0.05). However, in multivariate logistic regression models, the difference was no longer statistically significant. Significant variables were setting (non- rural vs. rural) and enrollment size. Institutions in a non-rural setting (OR=4.42; 95% CI: 1.01-19.42) were more likely to offer the HPV vaccine, and institutions with higher enrollments (per every 1,000 increase) were more likely to offer the HPV vaccine (OR=1.24; 95% CI: 1.10-1.39) or Pap tests (OR=1.18; 95% CI: 1.0–1.39) to students. Conclusion: Many colleges and universities are not offering the HPV vaccine or Pap tests to students. Student enrollment size and non-rural setting of the institution are important determinants of whether a college or university offers CC prevention services. Given that HBCUs support a large concentration of minority students who are at risk of cervical cancer, a greater effort should be employed at these smaller institutions to increase the availability of CC prevention services.</p>	<p>High school females and female adolescents with other recommended vaccinations most likely to complete HPV vaccine 3-dose series</p> <p>Kepka D, Ding Q, Warner E, Spigarelli M, Mooney K</p> <p>Despite longstanding recommendations established in 2006 by the Advisory Committee on Immunization Practices, HPV vaccine completion for adolescent females in the U.S. is far below Healthy People 2020 goals (33% vs. 80%; actual vs. target). The objective of this study is to investigate factors that relate to HPV vaccine completion among eligible teens in the United States. Methods: We analyzed provider-validated data from the 2012 National Immunization Survey-Teen for females ages 13-17 years (N=9,058) using survey sample weighted statistics. A survey sample weighted multivariable Poisson regression was used to estimate prevalence ratios (PR) for factors influencing HPV vaccine completion. These factors include mother's education, poverty status, adolescent's grade, facility type, receipt of adolescent vaccinations. Results: In multivariable models, daughters in 9-12th grades were more likely to complete HPV vaccination than those in 6-8th grades (PR=1.81, 95%CI=1.58-2.06). Facility type impacted HPV vaccine completion with those seen in hospital facilities being 1.3 times (PR=1.29, 95% CI=1.02-1.62) more likely to complete HPV vaccination and those seen in private facilities being 1.2 times (PR=1.22, 95% CI=1.01-1.48) more likely to complete HPV vaccination than those seen in public facilities. Compared to those without recommended adolescent vaccinations, receipt of seasonal influenza vaccination was related to HPV vaccine completion (PR=1.71, 95% CI=1.54-1.89), as did receipt of TDAP vaccination (PR=1.17, 95% CI=1.03-1.33) and Meningitis vaccination (PR= 2.74, 95% CI=2.20-3.42). Conclusions: Adolescent females in the U.S. are more likely to complete the 3-dose HPV vaccine series if they are in high school grades, seen in private or hospital facilities, and up to date on other recommended adolescent vaccinations. Targeted interventions are needed to improve HPV vaccination at the recommended ages of 11 and 12 years for girls, among female patients seen at public facilities, and among female adolescents who have not received other recommended vaccinations to effectively decrease the tens of thousands of HPV-related pre-cancers and cancers diagnosed in the United States.</p>

Paul Reiter, PhD	Jacqueline Hirth, PhD
<p>HPV Vaccination among a National Sample of LGBT Young Adults in the United States Reiter PL, McRee AL, Katz ML, Paskett ED</p> <p>The lesbian, gay, bisexual, and transgender (LGBT) communities suffer from many health disparities, including those related to human papillomavirus (HPV) infection and HPV-related disease. HPV vaccine is recommended for adolescents and young adults in the United States, yet little is known about vaccination among the LGBT communities. METHODS: We conducted an online survey in Fall 2013 with a national sample of LGBT young adults ages 18- 26 who self-identified as lesbian, gay, bisexual, or transgender (n=1005). Most participants were ages 22-26 (68%), non-Hispanic white (66%), and had at least some college education (80%). We identified correlates of HPV vaccine initiation (i.e., receipt of at least one dose) using multivariate logistic regression. RESULTS: Overall, 31% of participants had initiated the HPV vaccine regimen. Initiation was higher among lesbian and bisexual women (45%) and transgender persons (35%) compared to gay and bisexual men (13%) ($p<0.05$). Among lesbian and bisexual women, initiation was higher among those who had received a healthcare provider's recommendation for vaccination (OR = 6.50, 95% CI: 3.78–11.19) or perceived positive LGBT community vaccination norms (OR = 1.72, 95% CI: 1.19–2.48). Receipt of a healthcare provider's recommendation for vaccination was also associated with higher initiation among gay and bisexual men, as was a higher level of worry about getting HPV-related disease (OR=1.54, 95% CI: 1.05–2.27). The most common reasons why unvaccinated participants had not yet received HPV vaccine included having only one sexual partner who does not have HPV (16%), not being sexually active (14%), and not having seen the doctor recently (10%). Transgender persons were more likely to indicate being sexually inactive as a reason for not receiving HPV vaccine, while lesbian and bisexual women were more likely to indicate having only one sexual partner who does not have HPV (all $p<0.05$). CONCLUSIONS: HPV vaccination is low among LGBT young adults, particularly among young adult gay and bisexual men. Future efforts to increase HPV vaccination among these communities are needed and will likely require targeting based on sexual identity in order to address appropriate modifiable factors and barriers to vaccination.</p>	<p>Receipt of cervical cancer screening in guideline compliant intervals after HPV vaccination among young women Hirth JM, Lin YL, Kuo YF, Berenson AB</p> <p>To evaluate whether young women who receive the human papillomavirus (HPV) vaccine are compliant with cervical cancer screening afterwards. Methods: We conducted a retrospective cohort study using data from health insurance claims records to evaluate whether young women (19-26 years old) received a Papanicolaou (Pap) smear within 3 years after they initiated the 3-dose HPV vaccine series. We included all females living in the US who were 19-26 years old between January of 2006 and November of 2009 and who had received at least one dose of the HPV vaccine. To be included, the young women must have had continuous enrollment in the insurance 6 months before the initial vaccine and 37 months after the initial vaccination. We then evaluated the proportion of women who participated in a well woman exam or a Pap smear within 36 months after the 30 day period following vaccine series initiation. Finally, we examined the association between the number of HPV vaccine doses received and receipt of a Pap smear during the observed period, and compared the results using Cochran-Armitage trend tests. Results: In this sample, 21% received 1 dose, 24% received 2 doses, and 55% received 3 or more doses of the vaccine. Of the females who received all 3 vaccines, 64% received the 3rd dose between 6-8 months after the first dose. We found that in the 3 years following HPV vaccine series initiation, 79% of young women received a well woman exam and 65% received a Pap smear. Women were increasingly likely to have a Pap smear as the number of HPV vaccine doses increased ($p<0.001$). There were no significant differences in receipt of a Pap smear by interval appropriateness, but women who received fewer than 3 doses were less likely to have had a Pap smear in the 3 years following HPV vaccine series initiation. Conclusions: This study shows that young women who are vaccinated still return to their physicians for Pap smears after they receive the HPV vaccine. Further, those who receive the appropriate number of doses are more likely to get a Pap smear within 3 years of vaccination. Therefore, it is possible that appropriate vaccination is an indicator of quality of care and open communication between patient and provider.</p>

2015 ASPO POSTER DIRECTORY

Posters are loosely grouped by category. Poster # corresponds to Board #. (T = Trainee)

Poster #	LAST NAME	TITLE
1	Bakitas	A Mixed Methods Evaluation of an Advance Care Planning Decision Aid for Seriously Ill RCT Participants
2	Banfield	An analysis of lifestyle behavior patterns in NHANES
3	Berenson	A Brief Educational Intervention Increases Providers' HPV Vaccine Knowledge
4	Cohn	Are Women Willing to Change Breast Cancer Screening Guidelines?
5	Darlow	The SMART Project: A Self-Monitoring and Readiness Texting Project for Sun Safe Behaviors
6	Heckman	The Association of Health Literacy with Skin Cancer Risk & Protective Behaviors in a National Sample of Young Adults
7	Dominic	Impact of a Targeted CRC Screening Intervention Among Latinos in Central PA
8	Dominic	Outcomes of a Free CRC Screening among Medically Underserved Adults Utilizing Medical Facilities and FQHCs
9	Dominic	Predicting Prostate Cancer Screening Uptake in Underserved Men
10	Dominic	Colorectal Cancer Screening and Polyp Removal Rates Prior to Colon Cancer Diagnosis in Years 2010-12 among Insured
11	Flocke	The 5As framework (ASK, ADVISE, ASSESS, ASSIST, ARRANGE) as strategy for brief smoking cessation counseling
12-T	Gorman	Access to fertility information among young female cancer survivors
13	Holt	The Men's Prostate Awareness Church Training (M-PACT) for African American men
14	Hyde	Predictors of Genomic Literacy and Comprehension of Genetic Terms among Cancer Patients
15-T	Johnson A.	Perceived Social Support during Treatment as a Predictor of Emotional Quality of Life in Head & Neck Cancer Patients
16	Kiviniemi	SES Disparities in Beliefs About Colorectal Cancer Screening
17-T	Le D.	Assessing Prostate Cancer Knowledge and Screening Behaviors in the M-PACT Project
18	Li Li	Stool DNA versus Colonoscopy Based Colorectal Cancer Screening
19	McQueen	Development of the "QuitHelpers" cessation aid web tool
20-T	Nightingale	Correlates of Social Support and Preferences for Sources of Support among Head and Neck Cancer Caregivers
21	Pollak	Efficacy of a couple-based randomized controlled trial to help Latino fathers quit smoking during pregnancy
22	Pruitt	Charitable food distribution sites offer novel opportunities for ca prev research among underserved populations
23	Rahman	Racial Disparity in Receiving a Physician Recommendation for HPV among US Adolescent Girls: 2008 to 2012
24	Stapleton	Pilot Trial of a Web-based Intervention for Indoor Tanning Bed Users
25	Sterba	Depression in Newly Diagnosed Head and Neck Cancer Patients and Their Caregivers
26	Sullivan	Colorectal Cancer Screening in Alabama: Changes in Perceptions & Practices 2010-2014
27-T	Tagai	Reach, efficacy, and adoption of Project HEAL: A cancer early detection implementation trial in African Amer churches
28	Tiro	Development of a Self-persuasion Tablet-based Application for Parents Undecided about HPV Vaccination
29	Tosteson	Harnessing Variation in Screening Abnormality and Followup Rates with the PROSPR Consortium
30-T	Tsosie	Changes in multivitamin use after diagnosis of colorectal cancer
31	Wu	What melanoma preventive behaviors do adults discuss with their children and grandchildren after genetic testing?
32-T	Becker E.	Colorectal Cancer Screening Disparities: The Role of Multiple Chronic Conditions
33	Carson	Black and white women display differences in abundances of colorectal cancer associated gut microbial taxa
34	Henderson	Digital Screening Mammography Performance by Race
35	Lengerich	Trends In Stage-specific Incidence Rates For Urothelial Carcinoma Of The Bladder In Pennsylvania: 1986 To 2010
36	Lengerich	Systematic Assessment of Cancer Patient Navigation in Appalachia
37	Lian M.	Geographic characteristics associated with insufficient supply of mammography service in Missouri
38	Silvera	Perception of access to screening facilities and cervical cancer screening behaviors among low-income women in NJ
39	Silvera	Exploring Race Differences in Endometrial Cancer Clinical Characteristics at Diagnosis
40	Smits-Seemann	Gaps in Insurance Coverage for Pediatric Acute Lymphoblastic Leukemia Patients
41	Zamora	Treatment satisfaction & knowledge gaps among Spanish & English-speaking caregivers of pediatric oncology patients
42-T	Warner	Utah statewide provider survey: Younger pediatricians and those of LDS religion report lowest HPV vaccine knowledge
43	Waterbor	Summer Student Research Studies of Cancer Disparities and Cancer Prevention in Minority Groups
44	Braithwaite	Chronic Inflammation and Risk of Colorectal and Other Obesity-Related Cancers
45-T	Brewer	Follow-up behavior after abnormal Pap test results in Ohio Appalachia
46	Burch	Sleep Disorders among Veterans: Implications for Cancer Risk
47-T	Carter-Harris	Screening for Lung Cancer with Low-Dose Computed Tomography: Developing a Measure of Individual Health Beliefs
48	Chubak	Factors associated with time to colonoscopy after positive fecal occult blood test
49	Clarke Hillyer	Quality of Bowel Preparation in Navigator-Facilitated Colonoscopy; A Multi-center Study

50	Eberth	Planning and Implementation of Low-Dose CT Lung Cancer Screening Programs in the U.S.: A Mixed Methods Study
51-T	Guo	Effects of cardiovascular disease on compliance with cervical and breast cancer screening recommendations
52-T	Hardikar	Leukocyte telomere length differences among colorectal polyp subtypes in a colonoscopy based study
53-T	Krok	Patients' barriers to a diagnostic resolution and factors associated with needing patient navigation
54-T	Luu H.	Evaluation of Early Onset Pancreatic Cancer (EOPC) Patients
55	Pierce Campbell	Serum antibodies do not protect against acquisition of oral HPV16 in men: The HIM Study
56	Sprague	Variation in the distribution of mammographic breast density across radiologists
57-T	Sudenga	Progression of Genital HPV Infection to Condyloma and Penile Lesions
58	Yaghjian	Breastfeeding, parity, and mammographic breast density
59	Partington	Electronic Cigarette Use, Awareness and Perceptions in Cancer Patients
60-T	Advani	Cancer Screening and Perceptions in the Asian Indian Community
61-T	Johnson D.	Menstrual hygiene practice and cervical cytology among women living in Bhutanese refugee camps and Eastern Nepal
62	Anto	Evaluation of Curcumin as a chemopreventive against Benzo[a]pyrene-induced lung carcinogenesis
63	Bea	Factors influencing skeletal muscle improvements among br ca survivors involved in weight-bearing physical activity
64-T	Brown J.	Weight Lifting and Physical Function among Breast Cancer Survivors
65-T	Davis J.	Associations of race and obesity with NSAID use: implications for cancer prevention
66-T	Hastert	Contribution of modifiable risk factors to association between socioeconomic status and colorectal cancer incidence
67	Heck	Can the "Hispanic Paradox" shed light on childhood cancer risk?
68-T	Hibler	Physical activity, sedentary behavior and vitamin D metabolites
69	Hyndman	Changes in the gut microbiome of breast cancer survivors with improved cardiorespiratory fitness
70	Newcomb	Initiation of non-steroidal anti-inflammatory drug use in Seattle Colon Cancer Family Registry
71	Aldrich	Characterization of the microbiome in benign lung nodules and matched serum samples
72-T	Antwi	Single Nucleotide Polymorphisms in DNA Repair and Oxidative Stress-related Genes, Dietary Alpha-
73	Birmann	Polymorphisms in selected growth factor & immune signaling genes with susceptibility to multiple myeloma
74-T	Burns E.	Effects of Tualang honey on microbiome and UVB-induced processes in a murine model of squamous cell carcinoma
75	Chester-Paul	Human Health Concerns Resulting from Inhalation of Ignition Particulate
76	Custer	Decaffeinated Coffee and Increased Risk of Renal Cell Carcinoma
77	Custer	Obesity is Associated with the Development of a Less Aggressive Phenotype of Clear Cell Renal Cell Carcinoma
78-T	Davis A.	Blood DNA methylation and lung cancer risk in non-smoking women results:Central and Eastern Europe
79-T	Lang Kuhs	T cell receptor diversity and persistent human papillomavirus 16 infection
80	Lupo	Cancer Risk in Children with Birth Defects: A Population-Based Registry Linkage Study, 1992-2011
81	Rybicki	The changing role of GDF15 (growth/differentiation factor 15) during prostate carcinogenesis
82	Thompson C.	Breast Cancer Tumor Gene Expression and Pre-Diagnosis Sleep Duration
83	Thompson C.	Association of sleep duration, body mass index, and glucocorticoid receptor expression in breast cancer
84	Barrington	Associations of obesity with prostate cancer risk differ between U.S. African-American and non-Hispanic white men
85-T	Brown A.	Prevalence and predictors of overweight status among survivors of childhood acute lymphoblastic leukemia
86-T	Daniel M.	Effects of pterostilbene on breast cancer cells, in vitro
87-T	Dyer	Body mass index and delay in diagnosis of colorectal cancer
88-T	Falk Libby	Adiponectin-induced alterations in autophagy: Uncovering new avenues for control of breast cancer progression
89-T	Li, Jiang	Evaluating a Worksite-based Environmental Change Program Using the RE-AIM Framework
90		Withdrawn
91-T	Ramesh	BENZO(A)PYRENE [B(a)P]-Induced Colon Tumorigenesis is Enhanced by Western Diet In PIRC RAT Model
92-T	Winkels	Changes in body weight during and after treatment for colorectal cancer
93	Adams S.	Quality of life in long-term colorectal cancer survivors and their relatives in the Seattle Colon Cancer Family Registry
94	Anderson K.	Promoting Prevention Studies Using a Cancer Advocacy Organization
95-T	Arthur	Pretreatment serum carotenoid concentrations predict head and neck cancer recurrence and survival
96-T	Blair	Effects of Cancer History and Geriatric Assessment Domain Deficits on Mortality
97	Brandzel	A Qualitative Examination of Patient Experiences Regarding Surveillance Breast Imaging after Tx for Br Ca
98-T	Decoux	Intra-Limb Coordination of Shoulder and Elbow Joints during Tai Chi Exercise: Implication for Br Ca Survivor Rehab
99-T	Fogel	Symptom burden and health related quality of life in overweight/obese African-American breast cancer survivors
100	Jean-Pierre	Apolipoprotein B, Serum Cholesterol Levels And Self-Reported Memory Problems In Cancer Survivors
101	Li, Jun	Human Immunodeficiency Virus Testing among Cancer Survivors under age 65 in the United States
102-T	Mama	Longitudinal associations among physical activity and dietary habits in endometrial cancer survivors
103	Trentham-Dietz	Comparative Effectiveness of Incorporating a Novel DCIS Prognostic Marker into Breast Cancer Screening
104	Tripp	Psychometric Properties of the Impact of Event Scale in Melanoma Survivors
105	Weaver	Satisfaction with a Quitline-based Smoking Cessation Intervention among Cancer Survivors

1	2
<p>A Mixed Methods Evaluation of an Advance Care Planning Decision Aid for Seriously Ill RCT Participants and their Family Caregivers Dionne-Odom JN, Frost J, Li z, Bakitas M</p> <p>To conduct a summative evaluation of the Looking Ahead: Choices for Medical Care When You're Seriously Ill® decision-aid (PtDA) Methods: A consecutive sample of community-dwelling persons with advanced cancer and family caregiver participants were recruited from a parent randomized controlled trial of an early palliative care intervention. Patient and family caregivers provided structured qualitative and quantitative feedback to their nurse coach approximately 1 week after viewing the Looking Ahead PtDA program (booklet and DVD). Results: Of the 170 patient and 82 caregiver participants enrolled in the parent study between April 1, 2011 and October 31, 2012, 57 patients and 20 caregivers completed the DA evaluation study. Participants' responses about usability and acceptability were very favorable. Nearly all patients (93%) and family caregivers (100%) endorsed that they would recommend the Looking Ahead PtDA to others with serious illness. Major themes included: a preference for the DVD over the booklet; seeing others in similar situations was valuable and validating; and that the "right" time to receive the program was at or soon after advanced cancer diagnosis. Additionally, participants believed that exposure to the program empowered them to question healthcare providers; increased their awareness of different healthcare options such as palliative and hospice care; and prompted engagement in advance care planning and emphasized the importance of including family members in this planning. Conclusion: This study is among the first to present evidence of acceptability and satisfaction of early introduction of a PtDA for persons with advanced cancer and their families. The Looking Ahead PtDA was well-received and helped persons with advanced cancer realize the importance of prospective decision-making in guiding their individual treatment pathways. This type of PtDA can help seriously ill patients, well-before they approach the end of life to understand and to discuss future healthcare choices with providers and family. However systems to routinely provide PtDAs to advanced cancer patients and families are not well-developed.</p>	<p>An analysis of lifestyle behavior patterns in NHANES Banfield E, Davis JS, Lee HW, Chang S, F</p> <p>Several lifestyle behaviors like smoking and alcohol use are known to be associated with cancer and other chronic disease risk, though the extent to which individuals show increased risk among all these behaviors is unknown. For example, although alcohol use and smoking are correlated, many individuals smoke but do not consume alcohol and vice versa. Our goal was to assess the grouping of individual health behaviors into lifestyle patterns among different age strata using data from the large, nationally representative National Health and Nutrition Examination Survey (NHANES). Methods: Two sets of NHANES analyzed separately: NHANES III (1988-1994) and continuous NHANES (1999-2004) which allowed us to examine whether the grouping of health behaviors changed across time. We included adults age 20 and older that were not pregnant at the time of interview. The number of individuals included was 18,062 from NHANES III and 13,367 from continuous NHANES and participants were stratified by age (20- 30, 40-59, and 60+ years of age). Using data on six health behaviors: vitamin and mineral supplement use, alcohol use, number of times eating restaurant food per week, physical activity, smoking, and second-hand smoke exposure in the home, latent class analysis grouped individuals by their similarities across all these behaviors. Summary of Results: For almost all age strata, across both datasets, 3 distinct groups defined by similar health behaviors were identified. The only exception was in the 60+ year strata in NHANES III where 2 groups were identified. In the early dataset (NHANES III), smoking and alcohol use provided the most meaningful predictions of lifestyle patterns. In the later NHANES data, alcohol use no longer drove the groups and individuals were better distinguished by their smoking and second-hand smoke exposure. Conclusions: Overall, smoking consistently distinguished group membership in NHANES, with alcohol use and second-hand smoke exposure playing cohort-dependent roles. We are currently analyzing the effect of each lifestyle pattern on all-cause and cancer-specific mortality. This will allow for determination of which patterns are protective against mortality and can thus be encouraged in the US adult population.</p>

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<p>A Brief Educational Intervention Increases Providers' Human Papillomavirus Vaccine Knowledge Berenson AB, Rahman M, Hirth JM, Rupp RE</p> <p>Recommendation by a healthcare provider is critical to increase human papillomavirus (HPV) vaccine uptake in the US. However, current deficits in providers' knowledge of HPV and its vaccine are not fully understood and interventions to amend knowledge gaps are untested. The purpose of this study was to determine whether attending a structured presentation could increase provider knowledge of the HPV vaccine. Methods: We assessed knowledge levels of physicians, non-physician healthcare workers, and medical students before and after attending a 30-minute lecture held between October 2012 and June 2014. Paired t-test and McNemar's test were used to compare knowledge scores and the proportion of correct responses for each question, respectively. Multiple linear regression analyses were performed to examine correlates of baseline knowledge and change in knowledge scores post-intervention. Results: A total of 427 participants, including 75 physicians, 208 medical students, and 144 nurses or other healthcare workers, attended one of 16 presentations and responded to both pre-test and post-test surveys. Baseline knowledge was low among all groups, with scores higher among older participants and physicians/medical students. On average, knowledge scores significantly improved from 8 to 15 after the presentation (maximum possible score 16) ($P<.001$), irrespective of specialty, race/ethnicity, gender, and age. Although lower at baseline, knowledge scores of younger participants and non-physician healthcare workers (e.g., nurses, physician assistants (PAs), nursing students) improved the most of all groups. Conclusions: We conclude that a brief, structured presentation increased HPV knowledge among a variety of healthcare workers, even when their baseline knowledge was low.</p>	<p>Are Women Willing to Change Breast Cancer Screening Guidelines? Cohn W, Novicoff W, Dean McKinney M, Guterbock T, Rexrode D, Eggleston C, Harvey J, Knaus W</p> <p>This purpose of this study is to evaluate the willingness of women to change their breast cancer screening practices if given personalized recommendations based on risk factors such as breast density, family history and lifestyle. Methods: A random sample of 1,024 Virginia women between age 35-70 years and without breast cancer, reached by landline and cell phone, completed a 24-minute interview. Results: Just over half (54.6%) of women are definitely or probably willing to reduce their frequency of breast cancer screening if provided with personalized recommendations. This compares to 81.9% who are definitely or probably willing to increase screening. The most cited disadvantage for reduced screening was delayed detection of breast cancer (77%) while the most cited advantage for increased screening is earlier detection (82%). Women are willing to change their type of screening (92.3%). Women who were more likely to be willing to reduce screening are those with a lower perceived risk of breast cancer, less familiarity with risk factors and recommendations. When asked what they needed to know to make a change, women cited advice of a doctor (52.1%), research/evidence (38.9%) and comparison with old recommendations (22.5%) most frequently. Advice of a radiologist was only stated by 2.3% of the women. Conclusions: These results suggest that most women will be willing to change their breast cancer screening frequency especially if recommended by their primary care physician. Women do not view their radiologist as having a primary role in delivering screening recommendations; this underscores the need to educate primary healthcare providers regarding breast screening recommendations.</p>

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<p>The SMART Project: A Self-Monitoring and Readiness Texting Project for Sun Safe Behaviors Darlow SD, Heckman CJ</p> <p>The purpose of the intervention was to test the feasibility and efficacy of a text message intervention on sun protection and ultraviolet (UV) exposure behaviors in young women. Methods: This pilot study consisted of a 2 (behavior tracking vs. no behavior tracking) x 2 (tailored messages vs. no tailored messages) randomized design. The behavior tracking intervention was an interactive system that participants used every evening, and the tailored text messages were based on Health Belief Model constructs and were sent every morning. The intervention lasted two weeks. We hypothesized that a combined intervention of behavior tracking and receiving daily tailored text messages would decrease tanning behavior and increase sun protective behavior, relative to those only receiving one intervention, who in turn would experience better outcomes than an assessment-only group. One hundred and four women (ages 18-29) at risk of skin cancer participated in the study. Results: Analysis of variance (ANOVA) examining group differences on behavioral outcomes at four-week follow-up, with baseline score as covariate, showed that those who received the behavior tracking intervention reported significantly fewer UV exposure behaviors at four-week follow-up, relative to those who did not receive the tracking intervention, $F(1, 94) = 4.71, p < .05$. Those who received the daily tailored text messages reported significantly greater UV protection behaviors at four-week follow-up, relative to those who did not receive these messages, $F(1, 86) = 6.34, p < .001$. Conclusions: The tailored text messages, which were sent every morning, may have provided reminders to protect the skin from the sun that day, while the behavior tracking system, which was completed every evening, may have provided an opportunity to reflect on one's behavior that day. Future research will continue to examine how these interventions can impact healthy (sun protection) vs. unhealthy (UV exposure) behaviors, and how they can be adapted to apply to other populations at risk of skin cancer. We will also continue to examine ways in which smartphone apps and text messaging can be enhanced (e.g., more tailoring factors, more messages) to target behaviors associated with cancer prevention.</p>	<p>The Association of Health Literacy with Skin Cancer Risk and Protective Behaviors in a National Sample of Young Adults Heckman CJ, Darlow S, Handorf E, Raivitch S, Munshi T, Ritterband L, Manne S</p> <p>The purpose of the current study was to investigate the association of health literacy with skin cancer risk and protective behaviors among young adults, who are known to engage in multiple risky and few protective skin cancer-related behaviors. Methods: A national sample of 1,056 adults, 18-25 years old, at moderate to high risk of developing skin cancer, recruited from an internet research panel, completed a survey online. Behavioral outcomes were ultraviolet radiation (UV) exposure (e.g., indoor and outdoor tanning, sunburn) and protective (e.g., sunscreen use, UV-free tanning) behaviors. Multivariable regression analyses were conducted to determine whether health literacy was associated with behavioral outcomes while controlling for knowledge about sun protection and the risks of UV exposure, education, income, sex, age, and race/ethnicity. Results: Health literacy was negatively associated with intentional UV exposure behaviors, $t(1000) = -7.14, p < .001$, and having been sunburned in the last 30 days, $OR = 0.72, 95\% CI = 0.59-0.88, p < .01$, but it was positively associated with unintentional UV exposure behavior (e.g., getting a tan while playing a sport rather than intentionally sunbathing), $OR = 1.31, 95\% CI = 1.06-1.62, p < .05$. Health literacy was negatively associated with overall skin protection behaviors, $t(972) = -10.60, p < .001$, and ever having received a UV-free tan, $OR = 0.61, 95\% CI = 0.50-0.76, p < .001$. Conclusions: Very few studies have investigated the association of health literacy with skin cancer risk or protective behaviors. Interestingly, higher health literacy was associated with both lower levels of skin cancer risk and protective behaviors yet greater unintentional UV exposure behavior. Based on our findings, the behavior of more health literate young adults is consistent with modern US skin cancer prevention recommendations to limit indoor and outdoor tanning and sunburns but is not consistent with recommendations to actively protect the skin and limit UV exposure even when not intentionally tanning. Intervention may be helpful for both young adults with higher and lower levels of health literacy in order to reduce their skin cancer risk.</p>

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<p>Impact of a Targeted CRC Screening Intervention Among Latinos in Central PA Dominic OG, Lengerich EJ, Gallant N, DeVizio S, Kambic D, Curry W, Krebs</p> <p>Although the incidence of colorectal cancer (CRC) is no higher among Latino men and women than among Whites, non-Latinos in the USA the five-year survival rates for Latinos are lower than they are for Whites. Differences in survival are due in part to Latinos being diagnosed at a later stage of the disease; an ethnic gap in the use of CRC screening explains some of these differences. In an effort to reduce this ethnic disparity among Latinos, screening rates among this population must increase. The specific objectives of this study were to develop, implement and evaluate a targeted CRC screening intervention to increase CRC screening uptake. We measured actual CRC uptake in both the control and intervention arm as a method to determinate completion rates. The study design was a randomized, community-based, participatory (CBPR) design to determine completion of a provider-recommended, take-home FIT kit without (control) and with social support (intervention) among a sample of average-risk, urban and rural Appalachian Latino adults age 50 and older not currently adherent to national CRC screening guidelines (N=264). Each consented participant attended a one-time, community-based CRC screening opportunity offered at one of the eight study sites located in Central PA. Results: a total of 164 (62%) returned a completed FIT kit, which is higher than the reported 10%. Of these, 30 (18%) had a positive FIT test result, a rate three times higher than the reported 5% for this population. A higher return rate was observed among participants with social support (69%) when compared to the control (57%). The role of social support is an effective method for increasing CRC screening rates among these Latinos. These findings can be used to inform best practices for addressing cancer health disparities efforts for Latinos in a community-based setting.</p>	<p>Outcomes of a Free CRC Screening among Medically Underserved Adults Utilizing Medical Facilities and FQHCs: A CDC-PADOH Funded Project in PA Dominic OG, Lengerich EJ, McGarrity T</p> <p>The purpose of this work was to develop, implement and evaluate a targeted CRC screening intervention to increase CRC screening uptake among nonadherent medically underserved adults residing in central PA. We measured actual CRC uptake as a method to determinate completion rates. The project was a CBPR design to determine completion of a provider-recommended, take-home FIT kit with education and social support components among a sample of average- or increased-risk adults age 50 and older not currently adherent to national CRC screening guidelines (N=250). This screening opportunity was offered at our partnered community-based sites utilizing 5 medical facilities (one academic institution, one medical center, two FQHC, and a community clinic). Methodology: Each consented participant attended a one-time, CRC screening offered at one of the participating project sites located in Central PA. Results: 164 of 250 (66%) returned the FIT kit within a one-week timeframe. 10 tests were abnormal (positive FIT results). Of these six colonoscopies were referred to medical center with four complete, 1 was a “no show” and 1 was cancelled due to hypertension (BP reading taken prior to performing the colonoscopy- patient was sent home). The remaining four scheduled with their own provider; the other 3 were seen at our partnered FQHCs. Conclusion: this project demonstrated increased completion rate from baseline 24% to 66% at post project intervention among previously nonadherent medically underserved adults in Central PA. A CBPR approach utilizing these 5 medical facilities seems to be effective strategy for improving CRC screening uptake among these medically underserved adults.</p>

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<p>Predicting Prostate CA Screening Uptake in Underserved Men Lidell M, Aumiller B, Kluhsman BC, Dominic OG, Spleen A, Lengerich EJ</p> <p>This study examined (1) motivating factors (social influences) for prostate cancer screening with education and with the cognitive element of informed-decision making; (2) the role of social support in prostate cancer screening; and (3) the intention to be screened among medically underserved, low-income African American (AA) men of the recommended screening age of 50 years and older residing in Harrisburg, Pennsylvania. Methods: 151 eligible AA engaged in one of five community-based prostate screening offered. Survey 1 (pre- test) and Survey 2 (post-test) assessing sociodemographic variables (age, sex, race/ethnicity, marital status, level of education, level of income, poverty level, insurance status, and employment status) and screening health behaviors (prostate screening status, intention to screen, attitude, belief and knowledge about prostate cancer and screening, attendance of a prostate cancer education session, role of social influence on their decision- making to get screened, and cues to action to get screened for prostate cancer) were administered prior to screening. Results: We found significant differences ($p=0.04$) between agreement on the necessity of screening by race and ethnicity. The social construct indicated that on average screening decisions for men in all groups were affected by their social structure. Men who attended the screening session without an education session (compared to men attending the screening with an education session) were more influenced by their social contacts ($p=0.03$). Differences in individual social measures for AA were also observed. AA were more likely to agree with the following statement, "My church thinks I should be screened" ($p=0.03$). AA were in agreement with self-efficacy for screening than non-AA men ($p=0.03$). 42% of the individuals who attended the prostate cancer screening reported being influenced by another individual in their decision to be screened for prostate cancer. Most participants indicated their significant other had informed them of the opportunity to be screened for free and that significant other gave additional information important to their decision. Conclusions: A community-based targeted intervention with a church and social support component appears to have potential for improving prostate screening uptake among AA men in PA.</p>	<p>Colorectal Cancer Screening and Polyp Removal Rates Prior to a Colon Cancer Diagnosis in Year 2010, 2011, and 2012 Among Insured Members Smith HA, Russell A, Gladowski P, Smith T, Dominic OG</p> <p>Colorectal cancer (CRC) is one of the most preventable cancers. If adenomatous polyps detected by screening were removed before they transformed into cancers, a decrease in new CRCs and in related mortality would follow. Methodology: A claims analysis of colon cancer prevalence and related diagnostic testing among continuously enrolled insured members was completed to describe the frequency and types of preventive screening. Screening tests performed prior to a colon cancer diagnosis anytime from 2010 through 2012 were evaluated to determine whether the cancer diagnosis was found as part of routine screening. Data were categorized in three ways (those who had screenings before the day they were diagnosed, at least 60 days prior to diagnosis, 120 days prior to diagnosis). Results: The prevalence and assumed incidence based on claims data of colon cancer has increased each year since 2010; a slightly lower rate in 2012 was due to lack of full claims for the year, including only claims through November 2012. Average age at diagnosis was 69 years (range 8 to 99 years); most commonly diagnosed age 75 years. Approximately 60% of members diagnosed with colon cancer did not have a screening test found in claims data prior to being identified with cancer. Additionally, only 10% had one prior screening test before the diagnosis. Members who had a history of colon cancer screenings and had colonoscopies before being diagnosed ($n=1,411$), had a colonoscopy screening within the past 3 years (~34%), within the past year (~36%), in the past 1-2 years (15%), and in the past 2-3 years (15%). Among all members who had colonoscopies in 2010 and 2011, ~39%-41% had a polyp(s) removed. The rate of having polyps removed was significantly higher among those who had colon cancer than those who did not in both 2010 and 2011. Conclusion: These findings suggest that CRC screening remains underutilized even among insured members; that, oftentimes, the first test performed is the test that identifies cancerous lesions; and that members diagnosed with colon cancer were screened with colonoscopies up to three years prior to diagnosis. Encouraging adherence to guidelines and polyp removal prior to cancer diagnosis becomes increasingly important. These findings could help inform colorectal cancer prevention, treatment and control efforts.</p>

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<p>Assessing the Accuracy of Patient Report of the 5As for Smoking Cessation Counseling Flocke SA, Smith S, Jackson B, Antognoli E The 5As framework (ASK, ADVISE, ASSESS, ASSIST, ARRANGE) is the recommended strategy for brief smoking cessation counseling in the primary care context. Audio recording of the visit (direct observation) is the gold standard to evaluate delivery of 5As, but is expensive to collect and analyze. Patient report is an alternative, but may be prone to recall bias. While others have compared patient report to documentation in the medical record and physician report, this study compares patient report to direct observation to assess the degree of recall bias for each of the 5As. Methods: Routine primary care visits by 99 self- identified adult smokers and 16 physicians were audio recorded. Within 48 hours after the visit, patients completed a survey assessing smoking discussion and the occurrence of activities specific to each of the 5As. The audio recordings were evaluated using the 5As Direct Observation Coding Scheme (5A-DOC) for Smoking Counseling a published tool to evaluate the 5As using patient- clinician talk. The sensitivity, specificity, positive and negative predictive value of patient report vs. direct observation were computed. Results: On average, patients smoked 11 cigarettes per day and were 44 years old; 60% were female, 22% black and the highest education level was a high school degree for 58%. The frequency of the 5As based on evaluation of the audio recording using the 5A-DOC was ASK (98%), ASSESS (94%), ADVISE (82%), ASSIST (74%) and ARRANGE follow up (13%). The sensitivity and specificity of patient report was ASK (92%, 0%), ASSESS (90%, 50%), ADVISE (94%, 33%), ASSIST (90%, 50%) and ARRANGE (85%, 67%), respectively. Positive predictive values ranged from 28% to 98%; negative predictive values from 0% to 97%. Conclusions: Compared to the gold standard of direct observation, patient report of each of the 5As is reasonably sensitive, but not specific. Patients tend to over-report the occurrence of each of the 5As. Replication of this study with a larger sample, coupled with examination of patient and visit characteristics associated with inaccurate reporting, could inform future decisions about when patient report might be an acceptable method.</p>	<p>Access to fertility information among young female cancer survivors Gorman JR, LaCroix AZ, Malcarne VM, Roberts SC, Dominick SA, Su HI The purpose of this study is to describe access to and perceptions of fertility-related information among young female cancer survivors across demographic, reproductive, and cancer characteristics. Methods: We conducted an internet-based cross-sectional survey with 204 female cancer survivors, diagnosed at age 34 or younger, across the United States. We asked them to recall information about receiving fertility-related information at the time of their cancer diagnosis. Results: Approximately 60% of participants reported that a healthcare provider had discussed the potential impact of cancer treatment on their future fertility with them prior to treatment, but only 35% reported that they had received enough information. There were no differences in the proportion that received fertility information by demographic characteristics or reproductive history. However, those who were diagnosed during young adulthood were more likely to have received information than those diagnosed during adolescence or childhood, as were those diagnosed more recently, and those with breast cancer, as compared to all other cancer types (all with $p < 0.05$). Overall, about one third reported that they needed information that they did not know how to get and 60% reported feeling too overwhelmed at the time of their diagnosis to consider how their fertility could be impacted. Conclusion: The findings suggest that discussion of fertility issues prior to cancer treatment is better for those diagnosed more recently, during young adulthood, and with breast cancer, than for other groups. This provides some indication that professional society guidelines for discussion of fertility issues with cancer patients are being adopted. However, those diagnosed under the age of 20 appear to need more information. Further, most participants perceived that they did not receive enough information and reported feeling too overwhelmed at the time of diagnosis to consider fertility issues. Continued improvements to fertility-related communication and support could be of benefit, particularly for younger patients.</p>

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<p>The Men's Prostate Awareness Church Training (M-PACT) for African American men: Can women support men's informed decision-making? Holt CL, Le D, Wang MQ, Slade J, Muwwakkil B</p> <p>Given the important role that women play in men's health in many families, men's health promotion interventions should consider including women in a supportive role. However, men may prefer an "all male safe space" to have discussions around sensitive men's health topics like digital rectal exams and erectile dysfunction. The present study aimed to compare a mixed- gender vs. a men's-only approach to increasing informed decision-making for prostate cancer screening among African American men in church settings. Eighteen churches were randomized to attend a 4-workshop series using a the men's-only vs. a mixed-gender "health partner" approach, where the male participants were encouraged to bring an important woman in their lives (e.g., wife/partner; sister; daughter; friend) with them to the workshops for support. We compared impact of the workshops on informed decision-making outcomes. Data analyses suggest that there were no study group differences in decision-making outcomes involving stage, preparation, role preference, or self-efficacy at the 12-month follow-up. Implications for family support roles around decision-making for prostate cancer screening are discussed.</p>	<p>Predictors of Genomic Literacy and Comprehension of Genetic Terms among Cancer Patients Hyde SH, Styblo TM, Liu Y , Carlson GW, Staley CA, Sullivan PS, Maithel SK, Kooby DA, Lipscomb J, Gillespie TW</p> <p>Genetic/genomic evaluation of tumors has increasingly become the basis for therapeutic decision-making in cancer care. However, little is known about patient comprehension of genetics and genomics that may impact their ability to make informed decisions about cancer treatment. The purpose of this study was to identify predictors of genetic literacy and knowledge among patients with breast and GI cancers. Methods: Individuals ≥ 18 years old previously diagnosed with breast or GI cancer and receiving care at a large hospital (Emory) were eligible to participate. Validated instruments were used to assess genetic and health literacy. Patients were also evaluated on actual comprehension of genetic terms. Statistical tests were performed to determine the association of patient socioeconomic and clinical characteristics with the outcomes of interest. Results: A total of 150 subjects were enrolled, with most being non-Hispanic, Caucasian females with private insurance and annual household income $> \\$75000$. Mean age was 59 years and mean years of education were 16. Health and genetic literacy scores averaged 62.3/66 (94%) and 59.9/63 (95%), respectively. However, comprehension of genetic terms was significantly lower, with an average genetic knowledge score of 8/20 (40%), indicating limited comprehension of genetic terms despite high levels of education and measured health and genetic literacy. Race, private health insurance/HMO, and increased health literacy and numeracy scores were significant predictors of higher genetic literacy scores. Total years of education, income, and having had previous genetic counseling were significant predictors of genetic comprehension. Conclusions: Subjects demonstrated overall high genetic and health literacy, but poor comprehension of genetic terms. The literacy assessment tools used may not be ideal for predicting adequate comprehension of genomic information, even for well-educated individuals. Genetic and genomic tests are routinely used in the diagnosis and treatment of cancer, and interventions are needed to ensure that all patients understand these tests and their implications in order to facilitate truly informed decision-making and grasp the impact of genomic testing on treatment choices and outcomes.</p>

15-T	16
<p>Perceived Social Support during Treatment as a Predictor of Emotional Quality of Life in Head and Neck Cancer Patients</p> <p>Johnson AK, Nightingale CL, Carnaby GD, Curbow BA</p> <p>Perceived social support has been related to quality of life in head and neck cancer (HNC) patients. Concordantly, research also suggests that different types of perceived social support are related to differences in health, well-being, or functioning. Most of these studies are limited to cross-sectional designs. The objective of this study is to examine HNC patient reports of perceived support during treatment as potential predictors of subsequent post-treatment quality of life. Methods: Twenty-three HNC patients undergoing radiation therapy completed perceived social support measures during the fifth week of treatment. The Medical Outcomes Study (MOS) Social Support Survey was used to assess perceived availability of social support. This measure evaluates four domains of social support: emotional/informational, tangible, positive social interaction, and affectionate support. Quality of life was assessed one month following the conclusion of treatment, via the Functional Assessment of Cancer Therapy-Head and Neck (FACT-HN) which includes four domains: physical, social, emotional and social well-being. Results: Multiple regression analyses were conducted to evaluate the hypothesis that social support during treatment predicts post-treatment quality of life. A separate regression analysis was conducted for each of the FACT-HN domains. Results indicate the five domains of social support were significantly related to emotional well-being, $F(5, 17) = 3.18, p = .03$. Social support domains did not significantly predict any other FACT-HN domain. The multiple correlation coefficient was .70, indicating that approximately 48% of the variance in post-treatment emotional quality of life can be accounted for by social support. Social support domains were significant predictors of emotional quality of life: emotional/informational ($p = .002$), tangible ($p = .003$), affectionate ($p = .001$), and positive social interaction ($p = .007$). Conclusions: Perceived social support is a significant predictor of emotional quality of life. Given the association between perceived social support during treatment and emotional quality of life post-treatment, early modification of perceived social support through clinical interventions may improve quality of life in HNC survivors.</p>	<p>SES Disparities in Beliefs About Colorectal Cancer Screening</p> <p>Kiviniemi MT, Erwin DO, Jandorf L</p> <p>There are socioeconomic status disparities in colorectal cancer (CRC) screening rates. Many of the explanations for these disparities focus on structural and policy issues. Less examined is whether such disparities might arise due to differences in psychosocial/decision-making determinants of screening. In this study, we examined whether African American adults' beliefs about CRC screening differed as a function of their socioeconomic status. METHOD: As a part of a larger study of interventions to encourage colonoscopy screening, 376 African American adults over age 50 completed measures of beliefs about benefits of and barriers to CRC screening, screening self-efficacy, colonoscopy fear, and affective associations with screening. They also reported demographic information, including education and income. Education and income were highly correlated and there were significantly more missing data points for income, so we used education as the proxy for SES. Linear regression analyses were used to examine the relation of education and psychosocial/decision-making constructs. RESULTS: 70% of respondents were female; gender was controlled for in analyses. 17% had less than a high school education, 32% had a high school education, 27% had some college education, and the remaining 24% were college graduates or above. SES was significantly associated with all of the examined psychosocial/decision-making constructs; all standardized regression slopes significant at $p < .05$. Higher levels of education were significantly associated with more perceived benefits, fewer perceived barriers, greater perceived self-efficacy, fewer negative affective associations and less fear associated with colonoscopy. DISCUSSION: Socioeconomic status, as measured by education, was significantly associated with several known psychosocial/decision-making determinants of colonoscopy screening; in every case, higher education attainment was associated with levels of determinants that make screening engagement more likely. These differences should be considered in explanations for screening disparities by SES and in interventions to address SES disparities.</p>

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<p>Assessing Prostate Cancer Knowledge and Screening Behaviors in the Men's Prostate Awareness Church Training (M-PACT)</p> <p>Le D, Holt CL, Wang MQ, Slade J, Muwwakkil B</p> <p>African American men have the highest prostate cancer incidence rates worldwide and the highest mortality rate of any racial/ethnic group in the USA. Given the importance of women in medical decision-making and healthcare accessing among men, men's health promotion interventions may be enhanced by including the support of female family members. The Men's Prostate Awareness Church Training (M-PACT) project aims to increase informed decision-making for prostate cancer screening among African American men. The intervention consists of a spiritually-grounded 4-part men's health workshop series delivered in 18 churches. It is a group randomized controlled trial that aims to compare a men's only workshop format versus a health partner approach, where the enrolled men were asked to invite an important woman in their lives (e.g., wife/partner; daughter; sister; friend) to attend the workshops with them. Results are from 289 baseline participants (N=192 men-only; N=97 health partner) and 169 participants to date from the 12-month follow-up assessment (N=123 men-only; N=46 health partner). Initial data analyses show non-significant increases in prostate cancer knowledge and beliefs in both groups. Perceived barriers to screening were low in both groups at baseline, and they remained low at follow-up (ns). Scores on self-efficacy for screening were high at both time points for both groups, and while self-efficacy increased in the health partner group, this increase was non-significant. Regarding screening behavior at baseline, 67% of those in the men-only group and 52% in the health partner group reported ever having had a prostate specific antigen (PSA) test; while 76% of those in the men-only group and 74% in the health partner group reported ever having had a digital rectal exam (DRE). At follow-up, most screening behavior outcomes did increase, however these increases were not statistically significant. Preliminary findings suggest that the health partner group may have had a greater pre-post increase in reporting ever having had a PSA test than the men-only group. Future research may consider how best to include family in decision-making processes for prostate cancer screening.</p>	<p>Stool DNA versus colonoscopy based colorectal cancer screening: patient perceptions and differences between Caucasians and African Americans</p> <p>Abola MV, Fennimore TF, Chen MM, Cooper G, Chen Z, Marshall PA, Hoffman L, Li L</p> <p>Several alternative tests are available for colorectal cancer screening but it is not known if patient perceptions of the procedures, including stool DNA (sDNA) test or colonoscopy differ according to race. Methods: We prospectively identified patients aged 40 and older referred for colonoscopy.. Prior to the colonoscopy, all patients collected stool for sDNA testing. Participants who completed both a colonoscopy and sDNA were sent a survey consisting of 19 questions (fixed choice items and blank open ended questions) assessing perception of the sDNA test. The survey's Flesch-Kincaid Grade Level score was 5.7. Demographic information was collected via telephone interview. Results: Of 617 participants who were sent surveys, 410 responded (66% response rate). Respondents were self-identified as African American in 28% and Caucasian in 68%. In general, participants found sDNA more suitable than the colonoscopy (n=309, 75%), and the mostcommonly cited reasons included the absence of bowel preparation (n=75), no loss of work (n=39), and ease of completion (n=22). A higher percentage of Caucasians found the sDNA test more suitable than a colonoscopy than did African Americans (79% vs. 68%, p<0.001). The majority of both Caucasian and African American subjectss were comfortable with the stool collection (76% in each group). Among African American respondents, 42% cited no preference or were unsure about their preferred method of colon cancer screening, while 32% preferred sDNA.. For Caucasian participants, 44% preferred sDNA and 33% were unsure or had no preference (p value?). Somewhat fewer African Americans than Caucasians would repeat sDNA if their physician recommended it (79% vs. 88% respectively, p=0.07). Conclusion: Our study is the first to show differences between Caucasian and African American patients' perceptions of the sDNA, with a somewhat better acceptance of this technology among Caucasians. Further studies are warranted to understand the underlying reasons for these differences and to develop targeted interventions to increase uptake of this noninvasive screening technology, particularly in African Americans.</p>

19	20-T
<p>Development of the "QuitHelpers" Cessation Aid Web Tool</p> <p>McQueen A, Sumner W, Gould A, Colditz G</p> <p>Although strong evidence exists for improved rates of smoking cessation with pharmacotherapy, smokers' use of such aids is suboptimal. To increase consumer awareness and demand for evidence-based cessation aids, we developed and tested a web tool to recommend cessation aids based on individual's medical and personal factors. METHOD: We reviewed the literature, websites, physician desk reference, and product inserts to identify contraindications, warnings, side effects, and preferences for the 7 FDA approved pharmacologic cessation aids (nicotine gum, lozenge, nasal spray, inhaler, and bupropion and varenicline). We interviewed 5 health professionals and 21 smokers to improve the content and usability of our initial web tool. Additional rounds of usability testing are ongoing. RESULTS: We identified 18 chronic conditions and 7 medications, but the contraindications and warnings for pharmacotherapy vary substantially across sources and health professionals. Most notable are the warnings about using more than one cessation aid simultaneously. Smokers voiced concerns about 17 common side effects despite their modest impact in clinical trials. The literature supported the inclusion of 18 questions about individual factors and preferences in our tool that impact the appropriateness of specific cessation aids (e.g., smokers who want a discrete cessation aid are not recommended the inhaler). Acknowledging smokers' lack of awareness of all options, an interactive page was added to introduce each cessation aid (photo, typical dosing). Tailored feedback was added to highlight key reasons for their recommended cessation aid. When comparing our tool to generic descriptions of the aids, participants' selections may differ from the tool's recommendation. However, participants (accurately) viewed the tool as being more analytic and usually prioritized the tool's recommendation for their next quit attempt. CONCLUSION: QuitHelpers has thus far received positive evaluations from health professionals and smokers, whose feedback improved the next version of the tool. Future research is planned to examine the reach and effectiveness of the tool in helping smokers select and use suitable pharmacotherapy, and ultimately increase continuous abstinence from cigarettes.</p>	<p>Correlates of Social Support and Preferences for Sources of Support among Head and Neck Cancer Caregivers</p> <p>Nightingale CL, Curbow BA, Pereira DB, Wingard JR, Amdur RJ, Mendenhall WM, Carnaby GD</p> <p>Social support has been positively related to physical and mental health outcomes. Caregivers of head and neck cancer (HNC) patients deal with a range of stressors, yet little research has focused on social support among this group. The objectives of this study were to: (a) identify perceived levels of social support among HNC caregivers, (b) determine their preferred sources of support (, and (c) evaluate the relationship between perceived social support with quality of life (QOL) and caregiver burden. Methods: Informal caregivers (N=32) of HNC patients undergoing radiation therapy completed psychosocial instruments during the fifth week of the patient's treatment. Instruments included the Medical Outcome's Study Social Support Survey, the Caregiver Reaction Assessment (caregiver burden), the Caregiver Quality of Life Index-Cancer Scale, and a questionnaire on preferences for sources of support. Descriptive statistics and correlational analyses were used to examine the data. Results: Caregivers were predominately white (90.6%), female (84.4%), a spouse/partner to the patient (71.9%), and a mean age of 57 years (SD=14.6). Caregivers perceived moderate to high levels of overall social support (M=3.73, SD=1.04, range=1-5), with domain scores ranging from an average of 3.52 (SD=1.14) (tangible support) to 4.07 (SD=1.11) (affectionate support). Caregivers most commonly preferred to seek support from their spouse/partner and when unavailable, they most commonly preferred to rely on themselves for their needs. Spearman correlational analyses indicated that higher perceived social support was associated with higher overall QOL ($r_s(30) = .61, p < .001$) and lower caregiver burden for many of the domains including a lack of family support ($r_s(30) = -.54, p = .002$), an impact on finances ($r_s(30) = -.42, p = .02$), and an impact on health ($r_s(30) = -.48, p = .006$). Conclusions: HNC caregivers may benefit from behavioral interventions that facilitate skills for identifying potential sources of support and learning to ask for help when needed. Enhancing social support skills may have a positive impact on burden and overall QOL for HNC caregivers. Future research should utilize qualitative analyses to explore facilitators and barriers soliciting help for HNC caregivers.</p>

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<p data-bbox="139 161 758 254">Efficacy of a Couple-based Randomized Controlled Trial to Help Latino Fathers Quit Smoking during Pregnancy and Postpartum: The Parejas Trial</p> <p data-bbox="139 258 747 350">Pollak KI, Lyna P, Bilheimer AK, Gordon KC, Peterson BL, Gao X, Swamy GK, Denman S, Gonzalez A, Rocha P, Fish LJ</p> <p data-bbox="139 354 758 1549">Although many Latinos in the US smoke, they receive assistance to quit less often than non-Latinos. To address this disparity and to create a potentially sustainable intervention, we recruited Latino couples and provided a smoking cessation program during a teachable moment, when men's partners were pregnant. We report results of a randomized controlled trial to promote smoking cessation among expectant Latino fathers. Methods: We compared two interventions: 1) written materials plus nicotine replacement therapy (NRT) to 2) materials, NRT, and couple-based counseling that addressed smoking cessation and couples communication. We recruited 348 expectant fathers who smoked via their pregnant partners from county health departments. Our primary outcome was 7-day point prevalence smoking abstinence. We collected data from November 2010 through April 2013 and analyzed it in February 2014. Results: We found high rates of cessation but no arm differences in smoking rate at the end of pregnancy (0.31 vs. 0.30, materials only vs. counseling, respectively) and 12 months after randomization (postpartum: 0.39 vs. 0.38). We found particularly high quit rates among non- daily smokers but no arm differences (0.43 vs. 0.46 in pregnancy and 0.52 vs. 0.48 postpartum). Among daily smokers, we found lower quit rates with no arm differences but effects favoring the intervention arm (0.13 vs. 0.16 in pregnancy and 0.17 vs. 0.24 postpartum). Conclusions: A less intensive intervention including NRT, easily disseminated written materials and home assessment visits promoted cessation equal to more intensive counseling. Postpartum might be a more powerful time to promote cessation among Latino men. Impact: Less intensive interventions when delivered during teachable moments for Latino men could result in a high smoking cessation rate and could reduce disparities.</p>	<p data-bbox="781 161 1406 285">Charitable food distribution sites offer novel opportunities for cancer prevention research and intervention among vulnerable, hard-to-reach, and underserved populations</p> <p data-bbox="781 289 1406 1774">Higashi RT, Craddock Lee SJ, Leonard T, Cuate E, Pruitt SL People who live in food-insecure households face significant unmet health needs. At the same time, this population may be under-represented in clinical research studies because of the population's limited and intermittent engagement with the health care system. We describe preliminary results of a research partnership between UT Southwestern Medical Center (UTSW) and Crossroads Community Services (CCS), the largest charitable food distributor of the North Texas Food Bank. The goal of the study is to improve understanding of this population's health- and mammography-related needs, knowledge and service utilization. Methods Eight structured focus groups were conducted in English (n=4) and Spanish (n=4) at CCS. Discussions focused on 13 open-ended questions designed to solicit group communication about members' health status, healthcare access, mammography awareness and utilization, and attitudes toward participation in future health research. Results Participants included 42 CCS clients, about 90% of whom were Hispanic or African-American women. Key findings include: (1) Participants reported multiple co-morbid conditions among themselves and household members, yet utilization of health services was cost-dependent and often limited to emergency triage. (2) Many participants did not know what a mammogram was and utilization was closely linked to having health insurance, which most did not. (3) Despite reporting numerous daily life challenges, the majority were interested in participating in future research-related focus groups as a means of communicating their health needs and obtaining information and emotional support from peers. Conclusion Recruitment from charitable food distribution sites will target a high-need, underserved population. The community-academic partnership between CCS and UTSW has created a robust foundation for cancer prevention research that has already produced important insights about the population's needs and willingness to participate in research. Ongoing research is focused on implementing longitudinal health assessments of CCS clients. These data will be used to guide future interventions to increase awareness and utilization of cancer prevention services, e.g. mammography, in a population facing multiple barriers to care.</p>

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<p>Racial Disparity in Receiving a Physician Recommendation for Human Papillomavirus Vaccine among US Adolescent Girls: Trend from 2008 to 2012 Rahman M, Laz TH, Berenson AB</p> <p>To examine the trend of racial disparity in receiving a physician recommendation for human papillomavirus (HPV) vaccine among US adolescent girls. Methods: We analyzed National Immunization Survey of Teens (NIS-Teen) 2008-2012 data and examined the trend of racial disparity in receiving a physician recommendation for HPV vaccine among 13-17 year old US adolescent girls. Results: Overall, the weighted proportion of girls who received a physician recommendation was 49.2%, 57.0%, 54.9%, 58.8% and 65.3% in 2008, 2009, 2010, 2011 and 2012, respectively (p for trend <.001). The respective weighted proportion for non-Hispanic white, non-Hispanic black and Hispanic girls were: 53.6%, 60.7%, 59.0%, 63.4% and 70.2%; 42.7%, 50.0%, 46.3%, 52.5% and 62.8%; and 40.0%, 50.8%, 48.0%, 51.4% and 56.5% (p<.001 for all 5 years). After adjusting for demographic characteristics, separate weighted analysis for each year of data showed that non-Hispanic black and Hispanic girls were less likely to receive a physician recommendation than non-Hispanic white girls (p<.001 for all 5 years). However, there was no significant difference between Non-Hispanic black and Hispanic girls (p>.05 for all 5 years). Conclusions: Reasons for racial disparity in receiving a physician recommendation need to be identified and addressed to achieve the desired level of HPV vaccine uptake among US adolescent girls, irrespective of race/ethnicity.</p>	<p>Pilot Trial of a Web-based Intervention for Indoor Tanning Bed Users: Acceptability and Preliminary Outcomes Stapleton JL, Turner AL, Manne SL, Darabos KJ, Greene K, Coups EJ, Ray AE</p> <p>To describe the acceptability and outcomes from a pilot randomized control trial of a web-based indoor tanning intervention for current young adult female indoor tanners. An innovative aspect of the intervention is the engagement of participants in challenging their beliefs about the benefits of tanning, with a particular focus on social influences. Methods: Participants were 186 young adult women who reported indoor tanning at least once in the past 12 months. The study design was a 2-arm randomized controlled trial with pre and post assessments and random assignment of participants to the intervention or a waitlist control condition. We examined intervention acceptability using participants' utilization and an evaluation of the intervention. A series of regression analyses were used to test for condition differences in preliminary indoor tanning-related behavioral outcomes measured at the 6-week post-intervention assessment. Results: Intervention participants' were highly likely to use the intervention and rated the intervention favorably. There were significant reductions in self-reported indoor tanning use, indoor tanning intentions, and sunburns. Compared to control participants, intervention participants had reported fewer IT sessions, were more likely to report no indoor tanning use, had lower intentions to use IT, and reported fewer sunburns on the 6-week post-assessment. Conclusions: Participant acceptability of the intervention was very high. The intervention illustrated preliminary evidence of efficacy. The findings support the use of an indoor tanning intervention that engages indoor tanning users to challenge their beliefs that underlie tanning motivation. The use of a web-based indoor tanning intervention is unique and provides strong potential for dissemination.</p>

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<p>Depression in Newly Diagnosed Head and Neck Cancer Patients and Their Caregivers</p> <p>Sterba KR, Zapka J, Armeson K, Alberg A, Shirai K, Buchanan A, Day T</p> <p>Head and neck cancer (HNC) imposes a significant psychological burden on patients. Given the dynamic interplay between the emotions of cancer patients and caregivers, the aims of this study were to characterize the prevalence of depression in HNC patients and caregivers at diagnosis and assess factors associated with patterns of depression in dyads. Methods: Newly diagnosed patients with stage I-IV HNC (73% male, 62% stage IV) were enrolled at diagnosis and nominated their caregivers (57% partners). Patients and caregivers (N=73 dyads) completed surveys assessing sociodemographics, depression, symptoms, smoking and self-efficacy. ANOVA and Fischer's Exact tests were used to examine relationships among dyad depression status (whether both, patient only, caregiver only or neither reported depressive symptoms) and other factors. Results: Patterns of depression in dyads varied. In 37% of dyads both the patient and caregiver were depressed while in 24% of dyads neither were depressed. Furthermore, in 24% and 15% of dyads, only the patient or caregiver were depressed, respectively. Dyad depression status (whether both, one or neither were depressed) was significantly associated with patient smoking status, symptoms and self-efficacy ($p<.02$) and marginally associated with patient age and gender ($p<.07$). In subsequent pairwise comparisons, compared to dyads in which neither the patient or caregiver were depressed, dyads in which both were depressed had patients who were more likely to be male and younger ($p<.03$) and dyads in which only the patient was depressed had patients with lower self-efficacy to manage the cancer ($p=.003$). Lastly, compared to dyads in which neither the patient or caregiver were depressed, dyads in which the patient only or both were depressed had patients who were more likely to smoke and have worse symptoms ($p<.01$). Conclusions: Results highlight varied patterns of depression in HNC dyads and that younger, male, smoking patients with worse symptoms were more likely to be in dyads struggling with depression than in more resilient dyads where neither was depressed. Future research should examine relationships between depression and self-efficacy over time and identify needed resources for dyads with different psychological burden patterns.</p>	<p>Colorectal Cancer Screening in Alabama: Changes in Perceptions & Practices 2010-2014</p> <p>Chapman K, Crutchfield S, Nicholls, Perkins A, Shaw T, Sullivan M</p> <p>Colorectal cancer (CRC) is the second leading cause of cancer deaths in the U.S. Despite relatively high 5-year survival rates with early detection, more than 40% of CRC cases in Alabama are diagnosed as late-stage. This abstract reports results of an effort in Alabama to achieve the Centers for Disease Control and Prevention's goal of increasing CRC screening rates to 80%. The 2013 Alabama Survey of Endoscopic Capacity reveals insufficient capacity in Alabama to meet the current need for CRC screening in average risk individuals through colonoscopy alone. This suggests that alternatives to colonoscopy as a screening tool are needed. Accordingly, the Alabama Department of Public Health (ADPH) and the University of South Alabama's Mitchell Cancer Institute (USAMCI) have promoted use of the high-sensitivity Fecal Immunochemical Test (FIT) as part of a program called "FITWAY Alabama." Surveys were used to track changes in CRC screening perceptions and practices among Alabama primary care physicians resulting from the FITWAY program. In 2014, a statewide mail survey on CRC screening was administered to Alabama physicians (N=2,182) in family medicine, general medicine, internal medicine, and obstetrics & gynecology. Results were compared to data from a similar survey conducted in 2010. While the percentage of Alabama physicians who regularly conducted or recommended any form of CRC screening remained stable from 2010 to 2014 (86% and 87% respectively), there was an 18% increase among physicians in use of the FIT as a take-home stool test and a 10% reduction in use of 'in-office' tests that are inappropriate for CRC screening. Most notably, the percentage of physicians who reported knowing "a lot" about the FIT nearly doubled from 11% to 21% over the four-year period. Another encouraging trend is the increased use of Electronic Health Records with reminder systems that could greatly increase patient awareness and compliance with CRC screening guidelines. Expanding the use of CRC screening alternatives, such as the FIT, has the potential to save both lives and healthcare costs for the people of Alabama. To maximize this potential, continued efforts to increase physician awareness and understanding of best practices in CRC screening are needed.</p>

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<p>The Reach, Efficacy, and Adoption of Project HEAL: A Cancer Early Detection Implementation Trial in African American Churches Tagai EK, Holt CL, Santos SL, Scheirer MA, Bowie J, Haider M, Slade J, Wang MQ, Whitehead T</p> <p>Project HEAL (Health through Early Awareness and Learning)—a cancer-early detection implementation trial—aims to increase breast, prostate, and colorectal cancer screening in African Americans through a 3-workshop series delivered by Community Health Advisors (CHAs) in African American churches. We conducted a preliminary evaluation of the reach, efficacy, and adoption of Project HEAL guided by the RE-AIM framework. Methods: Churches were randomized into one of two groups: online or traditional (classroom) CHA training. After training and certification, CHAs delivered the 3-workshop series to congregants in their churches. Participant baseline and postsession surveys, the Faith-Based Organizational Capacity Inventory (completed by pastors or other delegates), project tracking database, and church and participant recruitment data were used for the evaluation. Results: With regard to reach, 388 total participants enrolled in Project HEAL—approximately one-third of all eligible participants. The traditional group had overall greater enrollment (n=227) compared to the online group (n=161) and enrolled a greater percentage of eligible participants (estimated at 43.27% and 22.50%, respectively). Only 23.2% of enrolled participants attended all three workshops (n=90). For efficacy, participants had a statistically significant increase in knowledge for breast ($t[139]=3.960$, $p<.001$), prostate ($t[74]=3.625$, $p<.001$), and colorectal cancer ($t[155]=4.249$, $p<.001$) after the 3-workshop series. However, there were no statistically significant differences between the two study groups in the increase of cancer-specific knowledge from baseline to postsession. Lastly, for adoption, 14 churches (38.89%) of the 36 initially approached agreed to participate in the project. Conclusions: Project HEAL had strong outcomes with regard to the RE-AIM Framework levels of efficacy and reasonable adoption. Though it is difficult to determine from available church data whether the intervention reached an optimal number of age-eligible participants, we suspect that reach could have been greater. Future studies should also consider how to reach individuals younger than cancer screening guidelines, to get them thinking about prevention and early detection.</p>	<p>Development of a Self-persuasion Tablet-based Application for Parents Undecided about HPV Vaccination Tiro JA, Lee SC, Farrell D, Marks EG, Baldwin AS</p> <p>We describe development of a tablet-based application using self-persuasion to promote HPV vaccination among parents of adolescents receiving primary care at safety-net clinics. To date, self-persuasion, an intervention strategy for generating one's own arguments to engage in health behavior, has primarily been used in a written format with educated populations. Our goal was to adapt the self-persuasion strategy for an electronic medium in which low-literacy parents who are undecided about the HPV vaccine watch a brief educational video and then use elicitation questions to voice and record their reasons to vaccinate. Development involved a two-phase process. In phase 1, we: (a) determined requisite application functions, interface, and data collection processes; (b) created English and Spanish scripts of the content based on HPV vaccine guidelines and cultural characteristics; (c) selected culturally-appropriate visual graphics and narrators. In phase 2, we conducted cognitive interviews with the target population and assessed time spent on the application tasks to formatively evaluate HPV vaccine content and method for eliciting self-persuasion. Each development phase took 9 months to complete (total 18 months). Data collected included audio-recordings of parental arguments for HPV vaccination, qualitative responses about application instructions and usability, and pre/post-data on HPV vaccination beliefs. Audio-recordings from the second phase (n = 23) were used to develop narrative arguments to be used in the future randomized controlled trial. Parents also provided feedback on application content that enabled investigators to modify instructions and remove elicitation questions not helpful for vaccine decision-making. Parents reported being willing and eager to use the tablet application in clinics, elicitation questions were effective in promoting responses related to cancer prevention and their child's overall health, and using the tablet did not raise concerns or increase hesitancy for HPV vaccination. Tablet-based applications are a promising mode to deliver self-persuasion interventions; however, collection of formative data is critical to ensure applications deliver messages and intervention strategies as intended.</p>

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<p data-bbox="139 163 758 254">Harnessing Variation in Screening Abnormality and Followup Rates within the PROSPR Consortium to Identify Best Screening Practices</p> <p data-bbox="139 258 758 348">Tosteson ANA, Beaber E, McCarthy A, Barlow W, Quinn V, Doria-Rose VP, Kim J, Wheeler C, Corley, Rutter C, Kamineni A, Halm E, Trentham-Dietz A, Haas J, Tiro J</p> <p data-bbox="139 390 758 1776">To characterize variation in screening abnormality rates and time to first follow-up within the Population-based Research Optimizing Screening through Personalized Regimens (PROSPR) Consortium. Methods: Abnormality rates per 1,000 screens from seven PROSPR Research Centers (PRCs) in 2011, 2012 or 2013 for breast (mammogram or digital breast tomosynthesis), colorectal (fecal occult blood tests including fecal immunochemical tests-[FOBT/FIT]), and cervical (Papanicolaou [Pap] and/or human papillomavirus [HPV] test) cancer screening. Abnormal breast screens (BIRADS 0, 3, 4 or 5) were followed for further imaging or tissue sampling. Positive FOBTs were followed for colonoscopy. Positive cervical screens were defined as HPV+ and/or atypical squamous cells of undetermined significance or worse. Low grade squamous intraepithelial lesion (LSIL) or worse results were followed for colposcopy. We report abnormality rates across PRCs, median and interquartile ranges (IQR) across primary care practices (available for 4 centers) and percent with follow-up across PRCs. Results: Three breast PRCs, an integrated health care delivery system, a statewide mammography registry, and a primary care practice network, reported 10,256/97,668 (105.0 per 1,000) abnormal screens. Overall positivity rates varied from 90.1 to 115.2 across PRCs with practice-level medians of 97.7 (IQR: 84.7-111.1). Three colorectal PRCs, two managed care plans and a regional safety-net health system, reported 34,906/760,366 FOBT/FIT+ (445.9 per 1,000) tests. Overall FOBT/FIT+ rates varied from 33.0 to 47.5 across PRCs with practice-level medians of 41.6 (IQR: 21.4 - 54.9). The cervical PRC, a statewide registry, reported 15,844/167,330 (94.7 per 1,000) abnormal screening pap tests and 5,302/167,330 (31.7 per 1,000) LSIL or worse results. The range in screening abnormality follow-up was 93.5-97.3% for BIRADS 0, 4, or 5 at 3 months and 54.2-77.7% for BIRADS 3 at 9 months, 46.8-68.7% at 3 months across colorectal PRCs, and 46.9% for cervical LSIL or worse results at 3 months. Conclusion: Documented variations in screening abnormality rates and follow-up within PROSPR provide a basis for future multi-level analyses investigating patient, practice, healthcare provider and health system characteristics.</p>	<p data-bbox="781 163 1404 218">Changes in Multivitamin Use after Diagnosis of Colorectal Cancer</p> <p data-bbox="781 222 1198 254">Tsosie U, Hua X, Adams S, Newcomb P</p> <p data-bbox="781 390 1404 1192">Multivitamin use is thought to be common among adults that have been diagnosed with cancer even though there is no known benefit in cancer prevention. The purpose of this abstract is to describe changes in multivitamin use after a diagnosis of colorectal cancer. METHODS: Participants consisted of members of the Seattle Colon Cancer Family Registry, a population based cohort of 1,366 men and women, 20-74 years of age, newly diagnosed with colorectal cancer between 1998 and 2007. Standardized interviews were used to elicit demographics and multivitamin use. Participants were asked to recall multivitamin use about one year prior to their diagnosis. Approximately five years later a second structured interview was administered asking participants to recall their multivitamin use since the initial interview. Prevalence estimates of multivitamin use were calculated pre- and post- cancer diagnosis. The frequencies of continuous use, initiating, and discontinuing use post-diagnosis were calculated. RESULTS: Multivitamin use was highly prevalent (70%) prior to diagnosis. Among pre-diagnosis users, 30% discontinued use during the 5 year follow-up period. Among the nonusers 17% initiated use post diagnosis. CONCLUSIONS: We observed a modest decrease in multivitamin use post-diagnosis.</p>

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<p>What Melanoma Preventive Behaviors Do Adults Discuss with Their Children and Grandchildren after Genetic Testing?</p> <p>Wu YP, Aspinwall LG, Stump T, Kohlmann W, Leachman S</p> <p>To identify the content of discussions between adults who received melanoma genetic testing and their offspring about preventive behaviors. 2. Simple statement of methods: Participants (N=24) received melanoma genetic testing and counseling. Immediately after test reporting, participants completed a questionnaire with items on how prepared they felt to discuss the family's genetic risk for melanoma with offspring and desired information to prepare for these discussions. One month later, participants completed a questionnaire that included open-ended items about their reported discussions with children and grandchildren about preventive behaviors (i.e., photoprotection, screening, risky behaviors). 3. Summary of results: Immediately following counseling, participants reported feeling prepared to discuss genetic risk with offspring due to their participation in research (33%) and their existing knowledge of melanoma (17%). Participants provided ideas for resources that would be helpful for these discussions, including written and pictorial information on genetic risk and internet-based resources. One month later, 71% of participants reported having discussions about photoprotection, 63% about screening, and 58% about risk behaviors. The most commonly reported photoprotection topic was sunscreen (82%); physical barriers (29%), and decreasing time outside during peak exposure hours (29%) were discussed to a lesser extent. For screening, participants reported discussing skin self-exams (47%), dermatological changes to look for during skin self-exams (47%), and importance of physician-led skin exams (40%). For risk behaviors, participants reported advising offspring to not engage in intentional tanning (57%). 4. Statement of conclusions: Adults who received melanoma genetic testing discussed a variety of recommended preventive behaviors, particularly sunscreen use, with their offspring who are also at-risk for melanoma. Individuals who receive melanoma genetic testing may benefit from receiving information about how to approach preventive behavior conversations with their offspring, particularly about use of physical barriers, avoidance of peak exposure times, and screening and risk behaviors.</p>	<p>Colorectal Cancer Screening Disparities: The Role of Multiple Chronic Conditions</p> <p>Becker EA, Morris AM, Griffith DM, West BT, Fitzgibbon ML, Stolley ML, Sharp LK, Peterson CE</p> <p>The objective of this study is to determine the extent to which multiple chronic conditions (MCC) influence disparities in colorectal cancer (CRC) screening in adults ages 50-64. Engagement in CRC screening is part of several national quality of care initiatives and critical in our efforts to reduce morbidity and mortality from the disease. Disparities in CRC screening by race/ethnicity, age, and sociodemographic characteristics are both persistent and pervasive across cancer sites. The conceptual framework guiding this research proposes several pathways to screening that could be disrupted by MCC through its impact on competing demands at both the patient and provider level. I examined these issues through a cross-sectional, quantitative analysis of the 2008 National Health Interview Survey and Cancer Screening and Sun Protection Supplement. The study population is made up of U.S. Non-Hispanic White and Non-Hispanic African Americans ages 50-64 with no history of colorectal disease. This age group is less likely to engage in CRC screening than their older counterparts and face an increasing burden of multiple chronic conditions, particularly in underserved populations. In multivariate logistic regression models, MCC is strongly and negatively associated with an individual's odds of receiving screening across groups defined by gender, race, and socioeconomic status. In addition, individuals with MCC are at a higher risk of diagnostic tests versus pre-symptomatic screening tests, increasing the likelihood of later stage diagnosis and poorer prognosis. Disparities in CRC screening are attenuated when we examine between-group differences within populations stratified by their MCC status, suggesting that intervening at points of contact of MCC patients will help reduce overall screening disparities. Understanding the extent to which MCC impacts engagement in CRC screening is critical to the measurement and amelioration of CRC screening disparities. These interventions will need to accommodate the unique needs of patients with MCC and extend the responsibility of the screening recommendation beyond the primary care providers to specialty and emergency care providers. The implications of this study apply to other preventative care behaviors requiring physician.</p>

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<p>Black and White Women Display Differences in Abundances of Colorectal Cancer Associated Gut Microbial Taxa Carson TL, Jackson BE, Kumar R, Lefkowitz EJ, Morrow C, Baskin ML</p> <p>Racial disparities for colorectal cancer (CRC) persist between black and white women even after accounting for known risk factors. Recent research suggests that the gut microbiota may play an important role in the etiology of CRC. In published studies, several microbial taxa were either over- or underrepresented among individuals with CRC. Purpose: To examine whether there are racial differences in the gut microbiota of generally healthy black and white women that may ultimately contribute to disparities in CRC Methods: Participants completed demographic surveys, anthropometric measures, and provided self-collected stool samples for analysis of gut microbiota. We examined racial differences in α-diversity using the Shannon Diversity Index, β-diversity using unweighted UniFrac, and the proportional abundance of operational taxonomical units (OTU) and genus groups associated with CRC using Student's t-test (unpaired, two-tailed). Results: Participants were 104 overweight/obese women (58 black, 46 white). Mean age and BMI of participants was 39.6 years and 31.0 kg/m², respectively. The Shannon Diversity Index indicated similar within-sample gut microbial diversity for black and white women ($p=0.67$). Beta diversity analysis (unweighted unifracs) suggested differences in the overall microbial composition when comparing black and white women ($p<0.001$). The PCoA analysis displayed patterns of clustering between two groups. When evaluating taxa associated with CRC, black women displayed greater abundances of Bacteroides and Bifidobacterium. Black women had significantly lower abundances of family Tissierellaceae (genus Finegoldia, Peptoniphilus, Anaerococcus) at $p<0.05$. Lower abundance of genus Clostridium was also observed in black women. No differences were observed for Porphyromonas. Conclusions: Our findings suggest that while there were no observed racial differences in the overall diversity of microbial taxa, the distribution of taxa that have been associated with CRC differed between races. Additional research is needed to investigate how behavioral (e.g., diet, stress), environmental (e.g., geographic residence), and biological (e.g., heredity, metabolism) factors influence racial differences in gut microbial taxa and whether observed differences account for disparities in CRC.</p>	<p>Digital Screening Mammography Performance by Race Henderson LM, Benefield T, Marsh MW</p> <p>Recent data indicates that mammography screening rates are similar for black and white women. However, there is an unequal burden of breast cancer by race, with black women having lower incidence of disease but increased mortality. We sought to examine if digital screening mammography performance differs by race in a large population based sample of women in North Carolina. We included 256,470 digital screening mammograms for women ages 40 and older who had an examination in the Carolina Mammography Registry (CMR) from 2003 to 2010. By linking CMR data with cancer registry and hospital pathology data, we ascertained cancer outcomes in the 12 months following screening mammography. We calculated the recall rate, sensitivity, specificity, and positive predictive value for black and white women separately. We assessed if there were differences in these performance measures by race, age, and breast density. We also described the tumor characteristics of the cancers for black and white women. The study population included 56,239 black and 200,231 white women, with a total of 276 cancers among black and 1,095 cancers among white women. The proportion of mammograms that were true positive, false positive, true negative, and false negative were similar by race. The recall rate was similar for black and white women (8.60 vs. 8.49, respectively). Also comparable were the sensitivity (83.70 vs. 82.37), specificity (91.77 vs. 91.92) and PPV1 (4.77 vs. 5.31) for black and white women. After stratification by race, age and breast density, no differences in recall rate or performance measures were found. A higher proportion of cancers were ductal carcinoma in situ for black versus white women (27.2% versus 23.3%, p-value=0.041). Compared with white women, black women were more likely to have poorly differentiated tumors and tumors that were estrogen receptor and progesterone receptor negative. Our results indicate that digital screening mammography performed equally well in black and white women and that the performance of digital screening mammography does not appear to play a role in racial breast cancer disparities.</p>

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<p>Trends In Stage-specific Incidence Rates For Urothelial Carcinoma Of The Bladder In Pennsylvania: 1986 To 2010 Lengerich EJ, Camacho F, Raman J</p> <p>The incidence of urothelial cancer (UC) continues to rise within the United States, especially in Pennsylvania. We review 25-years of UC incidence within Pennsylvania to identify disease incidence and geographic areas of concern, in order to identify "high risk" cohorts for targeted intervention. Material and Methods: Crude and age-adjusted UC incidence rates were calculated for Pennsylvania counties in 5-year intervals. Chloropleth maps plotting incidence rates across time and counties were created using the GeoDa statistical package. Rates were shrunk towards local area means using a spatial Empirical Bayes smoothing technique. Identification of hot-spots was accomplished using univariate LISA methods. Results: 93,478 cases of UC were recorded in Pennsylvania from 1986 to 2010. More than 80% of cases were localized disease (in situ/local disease), 9.5% regional, and 3.8% distant. The age-adjusted UC rate increased from 23.0 to 26.2 patients per 100,000, average annual percentage change (APC) of 0.6%. Over the last 25 years, there is an increase in distant UC (annual APC 0.6%), especially over the past 15 years (APC 4.5%). Chloropleth maps highlighted growing "hot spots" of cancer incidence in the southwestern and northeastern portion of the state. Conclusions: UC incidence in Pennsylvania has continued to rise over the past 25 years, with a 4.5% APC increase in distant disease over the past 15 years. "Hot spots" of UC are concentrated in the southwestern and northeastern regions. Further studies are necessary to delineate whether these trends are attributable to environmental exposures, delayed presentation, or access to care.</p>	<p>Systematic Assessment of Cancer Patient Navigation in Appalachia Lengerich EJ, Louis C, Fleisher L, Dignan MB</p> <p>Patient navigation (PN) address disparities in cancer mortality. Appalachia is largely rural with a population characterized by a high poverty rate and limited access to healthcare. The objectives were to systematically assess ongoing cancer PN programs and the perceived needs related to PN in Appalachia. Methods: We used a qualitative study design with semistructured telephone interviews of key informants at institutions/ programs with and without PN in Appalachia. Subjects were selected by nonprobability discriminative snowball sampling. We used directed content analysis to identify thematic units. Results: Twenty-nine key informants completed the interview, 15 (51.7%) at a site with PN and 14 (48.3%) at a site without PN. In Appalachia, PN was conducted mostly by full-time health professionals, primarily registered nurses, and personal attributes, such as knowing the community and working well with multiple parties, were important. Personal attributes were particularly important to working successfully with Appalachian residents because the Appalachian culture is one of self-reliance, family, and community. We develop a theoretical framework from the organizational leadership and system literature. Conclusions: The skills of patient navigators in Appalachia should match the responsibilities for the position. PN programs in Appalachia should have realistic expectations that are concordant with the needs and limited resources of Appalachian communities. Cancer patient navigators should build and use their social networks to span boundaries and overcome the negative externalities in the system. Our framework suggests that the need for these capabilities among navigators derives from four primary sources—the nature of patient problems, external influences, organizational boundaries, and individual behavior—and how they interact. Addressing the negative externalities associated with these issues reflects an ability to understand and respond to both macro- and micro-level issues across the care continuum. Our model stresses the need for administrators and managers, in addition to navigators, to address underlying health system issues through targeted training from the organizational and management literature.</p>

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<p>Geographic Characteristics Associated with Insufficient Supply of Mammography Service in Missouri Lian M, Struthers J, Liu Y, Colditz GA</p> <p>To identify geographic areas in Missouri where the accessibility to mammography service is insufficient for breast cancer screening. Methods. The information on the locations of mammography machines operating in 2014 was obtained from the US Food and Drug Administration. We constructed a census tract-level socioeconomic deprivation index using 2005-2009 American community survey data. Spherical distance matrix between locations of mammography service and centroids of census tracts (weighted by the number of women age 40 or older) was computed. The catchment area of each mammography facility was defined by the closest census tracts, where the aggregation of women age 40 or older reaches a maximum service capacity (6,000 mammograms per year) for that facility. The machine-to-population ratios were calculated by dividing the number of machines by the population of all census tracts for which centroids fall into the maximum mammography capacity. The identified geographic areas uncovered by the catchments of any mammography services were mapped using the ArcGIS. Results. There were 204 stationary mammography machines operating in 126 facilities across the state in April, 2014, which could provide mammography service for up to 1.22 million adult women. Among about 1.50 million women in Missouri aged 40 or older, the currently existing mammography services might not be available for about 0.27 million (18.2%) women. Accounting for spatial overlaps, 47.3% of women aged 40 or older live outside the catchment area of mammography services. In Missouri, 54.7% of the state defined by geography lack mammography services. These geographic areas are more likely in rural regions and in census tracts with less than 5% African American population or with the least socioeconomic deprivation (all Ps < 0.001). Conclusion. Approximately half of women eligible for screening mammography live in the areas where currently existing mammography capacity might be insufficient for breast cancer screening. This type of geographic area is more likely in rural regions and areas with less deprived socioeconomic condition. Disparities in breast cancer mortality may be addressed through policy actions to improve geographic allocations of mammography services in Missouri.</p>	<p>Perception of Access to Screening Facilities and Cervical Cancer Screening Behaviors among Low-income Women in New Jersey Silvera SAN, Bandera EV, Jones BA Andrus V, Trusdell M, Demissie K</p> <p>Racial/ethnic disparities in cancer outcomes have been well documented. Access to Pap testing and mammograms may account for some of the variation in the racial and socioeconomic differences in cancer outcomes. However few studies have explored if perceived access to health care and/or cancer screenings are associated with use of cancer screening services for low income and diverse racial/ ethnic populations. The purpose of this study is to evaluate and characterize the relationship between perception of access to free or low-cost screening facilities and cervical cancer screening behaviors among low-income women in New Jersey. Methods: We used multivariate logistic regression to investigate the perception of access to free- or low-cost screening on cancer screening behaviors using data from a cross-sectional study of low-income women in New Jersey. Results: Likelihood of adhering to cervical cancer screening guidelines was inversely associated with age (OR= 0.92, 95% CI = 0.88, 0.98) and positively associated with owning a car (OR = 8.78, 95% CI= 1.70-45.48), knowing where to go for any cancer test (OR= 4.89, 95% CI= 1.28 – 18.74), and knowing the location of a free/low-cost medical center that performs Pap testing (OR = 14.12, 95% CI = 4.02 49.63). Conclusions: These preliminary results suggest that, in keeping with the previous literature, transportation continues to be a predictor of screening behavior. In addition, simply knowing the location of free and low cost screening centers may increase the likelihood of utilizing screening, which can be important in terms of future research and in developing targeted prevention interventions.</p>

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<p>Exploring Race Differences in Endometrial Cancer Clinical Characteristics at Diagnosis Silvera SAN, Trusdell M, Bandera EV, Demissie K, Dubrow R, Curnen MGM, Jones BA</p> <p>In the U.S. white females have higher average annual age-adjusted incidence rates of endometrial cancer than African American females. However, the average annual age-adjusted mortality rates for endometrial cancer are higher for African Americans than Whites. The purpose of this study is to gain an understanding of relative impact of medical and sociodemographic factors that underlie the differences in White/African American outcomes in endometrial cancer. Methods: We conducted an exploratory analysis of endometrial cancer stage at diagnosis using data collected as part of a hospital-based case-case study conducted in 22 Connecticut hospitals including 159 white and 39 African American endometrial cancer cases. Stage of diagnosis was categorized as localized (in situ and Stage I) versus non-localized (regional or distant). Results: Compared to white participants, African American participants were more likely to be single, report lower educational and occupational attainment, and lower total family income. In addition, African American participants were less likely to consume alcohol and were more likely to be obese than their white counterparts. In age-adjusted multivariable logistic regression models, race was not statistically significantly associated with stage of diagnosis, however later stage of diagnosis was statistically significantly associated with BMI (ORoverweight 2.11, 95% CI 1.04 – 4.29, ORobese = 3.31, 95% CI = 1.64 – 6.45) and with high tumor grade (OR = 2.73, 95% CI 1.52 – 4.92). These associations did not vary by participant race. Conclusions: These results suggest that obesity may be a key factor in endometrial stage of diagnosis. Given that African American women are more likely to be overweight/obese, these results can be important in guiding programs and interventions aimed at reducing these disparities.</p>	<p>Gaps in Insurance Coverage for Pediatric Acute Lymphoblastic Leukemia Patients Smits-Seemann RR, Kaul S, Hersh A, Kirchhoff AC</p> <p>Investigate continuity of insurance coverage during the first two years of treatment for pediatric Acute Lymphoblastic Leukemia (ALL) patients. Methods: We examined insurance coverage via hospital billing records across the first two years of cancer therapy for pediatric ALL patients (n = 401) diagnosed ages 0-26 between 1998 and 2010. The main outcome of interest was whether a patient experienced a gap in insurance of any length during this time period compared to being continually insured. Using a logistic regression model, we evaluated demographic predictors of a gap in insurance (age at diagnosis, gender, high/standard risk, rural/urban county at diagnosis, and area level income), as well as year of diagnosis. Results: In the sample of patients the average age at diagnosis was 6.6 years (SD = 5.1), and 184 (46%) patients were female. In their first two years of treatment, 56 patients (13.9%) experienced a gap in insurance. In the multivariable logistic regression model, we found that 1) patients with public insurance at diagnosis had a fourfold increased risk of experiencing a gap in insurance (OR = 4.17, 95% CI: 2.01 – 8.67) compared to privately insured patients and 2) those diagnosed more recently were less likely to experience a gap in coverage (OR = 0.87, 95% CI: 0.78 - 0.95) than the year prior. Conclusions: At greater risk of experiencing a gap in insurance coverage were those patients with public insurance at diagnosis, and those diagnosed in earlier years. Changes in the government benefits in Utah may have contributed to the decreased likelihood of a gap in insurance across time. For instance, the state of Utah created an online case management system to link all government benefits (e.g., food stamps, Medicaid), accessible to beneficiaries from any internet connection. Although over time the risk of experiencing a gap in insurance has decreased, there were still a meaningful number of patients who experienced a gap in insurance. Previous research has found that continuity of insurance is important in preventive healthcare for children, but more research is needed to understand how gaps in insurance affect continuity of care for pediatric cancer patients during treatment, and continuing throughout childhood.</p>

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<p>Treatment Satisfaction and Knowledge Gaps among Spanish and English-speaking Caregivers of Pediatric Oncology Patients Zamora ER, Kaul S, Kirchhoff AC, Gwilliam V, Jimenez OA, Nelson DK, Montenegro R, Fluchel MN</p> <p>Care for pediatric cancer patients from Spanish-speaking Latino families may be influenced by caregivers' language barriers and understanding of cancer treatment. Purpose of Study We report on Spanish and English-speaking pediatric oncology caregivers' satisfaction with their child's health care and knowledge gaps about treatment (i.e., whether child was enrolled in a clinical trial). Methods We administered English (N=310) and Spanish (N=56) surveys to caregivers of pediatric oncology patients treated at Primary Children's Hospital in Salt Lake City, Utah. Differences between English and Spanish-speaking caregivers related to patient/caregiver characteristics and health care experiences were compared using t-test and chi-square statistics. Using multivariable logistic regression that adjusted for socioeconomic factors, we evaluated whether there were differences related to knowledge of clinical trial status between English and Spanish-speaking caregivers. Language and communication needs were evaluated among Spanish caregivers. Results Patients averaged 9.29 years of age (SD=5.6) and 40% had leukemia. Over 72% of Spanish-speaking caregivers had less than a high school education while 98% of English-speaking caregivers had completed high school ($p<.001$). While 62.5% of Spanish-speaking caregivers reported understanding English well, only 30.3% spoke it well. Spanish speaking caregivers reported higher satisfaction with the cancer care their child received (0-100 scale; Spanish average=97.1(SD=8.1) vs. English=90.1(SD=16.6), $p<0.001$). In the multivariable regression, Spanish-speaking caregivers were more likely to incorrectly identify whether their child was on a clinical trial compared to English-speaking caregivers (44.6% vs. 21.9%, OR=3.38, 95% CI 1.03-11.10). Over 30% of Spanish-speaking caregivers thought their child would have received better care if English was their primary language. Conclusion Spanish-speaking caregivers of pediatric oncology patients reported high satisfaction with care, but many may be poorly informed about treatment. Culturally-appropriate Spanish language resources (e.g., pamphlets explaining treatment protocols) need to be developed and evaluated for their effectiveness for Spanish-speaking families experiencing cancer.</p>	<p>Utah statewide provider survey: Younger pediatricians and those of LDS religion report lowest HPV vaccine knowledge Warner EL, Ding Q, Boucher K, Kepka D</p> <p>To assess pediatric providers knowledge about the HPV vaccine through a statewide online provider survey in a state with the lowest HPV vaccination rates in the United States. Methods: We developed a cross-sectional, statewide, online survey based on a review of current literature to assess pediatricians' knowledge of the HPV vaccine. Individuals from the Utah Chapter of the American Academy of Pediatrics and/or the University of Utah Department of Pediatrics was eligible to participate (N=600). Participants were recruited through newsletters and academy announcements, and were sent an email link to participate. There were N=108 participants, for a response rate of 18%. Knowledge was assessed using a composite score of six Likert-scale questions with scores ranging from 1 to 5 (Cronbach alpha=0.63). The composite score represents the mean of the six questions, so also has a ranging from 1-5. Univariable and multivariable linear regression models were fitted to the knowledge composite score outcome examining the association of provider demographic and practice characteristics. All analyses were conducted in Stata 13. Results: Respondents were primarily urban (93.7%), married (80.4%), and White (91.3%). The highest proportion of respondents were ages 30-39 (34.0%) and of Latter-Day Saint (LDS) religion (30.7%). Nearly half of respondents saw \geqpatients per week (45.6%). On a scale of 1-5, those aged 40-49 had the highest knowledge of HPV (Mean Score (MS)=4.64, 95%CI 4.45-4.84, $p=0.01$) compared to those ages 18-29. Catholic (MS=4.68, 95%CI 4.39-4.98, $p=0.02$) and Other Christian's (MS=4.58, 95%CI 4.37-4.8, $p=0.03$) had higher HPV knowledge than those of LDS religion. In the multivariable regression, those aged 40-49 and 50 or older had 51% ($p=0.005$) and 39.5% ($p=0.03$) higher HPV knowledge compared to those ages 19-29. Catholic and Other Christian providers had 42.1% ($p=0.02$) and 35.9% ($p=0.01$) higher HPV knowledge compared to LDS providers. There were no significant differences in practice characteristics. Conclusions: Younger providers and providers of LDS religion may need additional training about the HPV vaccine. Improving HPV vaccination rates is a national priority, and Utah has the lowest vaccination rates in the country as of 2013.</p>

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<p>Summer Student Research Studies of Cancer Disparities and Cancer Prevention in Minority Groups Padilla LA, Desmond RA, Brooks CM, Waterbor JW</p> <p>To describe the nature of cancer disparities research and minority cancer prevention research conducted by medical students and graduate students supported by the NCI R25E program at the University of Alabama at Birmingham (UAB) Medical Center. Methods: Cancer disparities is an active area of research among faculty, medical students, and graduate students at the University of Alabama at Birmingham (UAB) Medical Center. In summers 1999-2014 UAB's Cancer Research Experiences for Students (CaRES) R25E program funded by the National Cancer Institute supported over 500 students to undertake short (8-12 week) cancer research projects directed by members of the UAB Comprehensive Cancer Center faculty. The projects proposed reflect active areas of faculty research and include basic science experiments, clinical studies, community-based investigations, and analyses of secondary data. Interested students self-match to available projects based on their previous background, abilities, and interests. Studies of minority health and health disparities are given priority for funding. Results: Of the 238 cancer-related, peer-reviewed articles published by alumni of the CaRES program, 17 articles address cancer in minority groups or racial disparities in cancer prevention and control activities (such as lifestyle and screening). African Americans, Latinas, Alaskans, and Mexican immigrants were studied in 15 of these articles, while two articles pertain to all racial groups. Thirteen articles are about one or more specific cancers (colon, cervix, prostate, breast, or lung), while the remaining four articles address the relationship of diet, weight, and physical activity to cancer prevention. Twelve of the 17 articles describe studies of education and prevention, two articles address differential outcomes of black versus white cancer survivors, and three articles describe methods for conducting cancer disparities research. Conclusions: The common themes of these publications are the importance of cultural context when educating people about cancer prevention; and the need to carefully select approaches that will maximize the collection of accurate data in studies of cancer prevention and control in minority populations. Specific recommendations will be made based on the collective review of these studies, with commentary about ways in which this knowledge can be applied to minority populations.</p>	<p>Chronic Inflammation and Risk of Colorectal and Other Obesity-Related Cancers: the Health, Aging and Body Composition Cohort Study Braithwaite D, Izano M, Wei E, Health ABC Investigators</p> <p>The association between circulatory measures of inflammation and risk of colorectal and other cancers has been widely studied, but the literature remains inconsistent. A possible explanation may be a paucity of studies examining repeated measures over time. Methods: In the Health Aging and Body Composition prospective cohort of 2490 older adults aged 70-79 years at baseline born between 1918 and 1927, we assessed whether circulating levels of three nonspecific serologic markers of systemic inflammation, interleukin-6 (IL-6), C-reactive protein (CRP), and tumor necrosis factor-α (TNF-α), predicted the risk of colorectal and other obesity-related cancers. Inflammatory markers were measured in stored baseline fasting blood samples; CRP and IL-6 were additionally measured at years 2, 4, 6 and 8. Models for obesity-related cancers were adjusted for age, race, gender, site, physical activity, body mass index (BMI), abdominal circumference, smoking diabetes, non-steroid anti-inflammatory drug (NSAID) use and alcohol consumption. Models for colorectal cancer were additionally adjusted for height, calcium consumption, calcium supplement use, and post-menopausal hormone use. Proportional-hazards models were applied to determine whether baseline, simple updated and cumulatively averaged measures of CRP and IL-6 and baseline measures of TNF-α were associated with the risk of incident cancer(s). Results: There were 55 incident colorectal cancers and 172 incident obesity-related cancers during a median follow-up period of 11.9 years. Risk of colorectal cancer in the highest tertile of updated CRP was more than two-fold higher than that in the lowest tertile (HR = 2.29, 95% CI: 1.08–4.86). No significant associations were seen between colorectal cancer and IL-6 or TNF-α. Although no significant associations were found between the inflammatory markers and obesity-related cancers, a suggestion of effect modification by BMI and NSAID use was observed. Conclusion: Increased CRP levels over an 8 year period were strongly associated with the increased risk of colorectal cancer in this population. In contrast, IL-6 and TNF-α were not major predictors of colorectal cancer risk. The inflammatory markers were not associated with other obesity-related cancers although there was a suggestion of effect modification by BMI and NSAID use.</p>

45-T	46
<p>Follow-up behavior after abnormal Pap test results in Ohio Appalachia Brewer BM, Dean JA, Hade EM, Ferketich A</p> <p>To describe follow-up behavior according to the 2006 American Society for Colposcopy and Cervical Pathology (ASCCP) guidelines following abnormal Pap test results among Appalachian women. METHODS: All women with abnormal Pap test result status (n=283) from 17 clinic sites in Appalachia were selected. Medical records were abstracted to determine follow-up according to ASCCP guidelines. Associations were determined through logistic regression models that incorporate a random effect for clinic. RESULTS: After an abnormal test, 201(71.0%) of women received any treatment, 171 (60.4%) received follow-up within treatment guidelines, and 116 (40.9%) received follow-up within treatment and time guidelines. Results from multivariable models revealed that reporting no recent alcohol use was associated with an increased odds of receiving any treatment or follow-up treatment (aOR= 2.15, CI [1.11-4.14]). Additionally, women who attended private healthcare clinics had significantly higher odds of receiving any treatment compared to women who attended other clinics (aOR= 2.76, CI [1.41-5.39]) as did those who reported being 'ever' smokers (aOR= 2.59, CI [1.37-4.88]) compared to those categorized as 'never' smokers. CONCLUSIONS: Failure to follow-up after an abnormal Pap test with appropriate treatment and within appropriate time is a significant issue among Appalachian women, putting them at increased for the development of cervical cancer. These results suggest that no recent alcohol use, being ever smokers and attending private clinics may be associated with obtaining follow-up treatment for an abnormal pap result; outlining specific risk factors for which interventions should be targeted.</p>	<p>Sleep Disorders among Veterans: Implications for Cancer Risk Burch JB, Delage AF, Zhang H, McLain AC, Ray MA, Adams SA, Hebert JR</p> <p>Sleep disruption influences biological processes that can facilitate carcinogenesis. However, studies examining the relationship between sleep disruption and cancer risk have been inconclusive. This retrospective cohort study used de-identified data from the Veterans Administration (VA) electronic medical record to test the hypothesis that sleep disorder diagnoses among Veterans seeking care in the Southeast United States Service Network are associated with increased risk for cancer of the prostate, breast, colorectum, or total cancer (1999-2010, N=663,869). Sleep disorders were defined as patients with an in- or out-patient diagnosis as specified by the International Classification of Sleep Disorders. Cancer cases were defined as patients identified in the VA Tumor Registry during the follow-up period with a histologically confirmed primary tumor (any stage, excluding benign or in situ tumors). The relationship between a prior sleep disorder diagnosis and cancer incidence was summarized using extended Cox regression analyses with sleep disorder diagnosis as a time-varying co-variate. Sleep disorders were identified among 56,055 (8%) eligible patients; sleep apnea (46%) and insomnia (40%) were the most common diagnoses among those with sleep disorders. There were 18,138 cancer diagnoses in the study population (42% prostate, 12% colorectal, 1% female breast, 46% other). Hazard ratios (HRs) for any cancer diagnosis were elevated by 34-69% among patients with a diagnosed sleep disorder relative to those without sleep disorders, after adjustment for the effects of age, sex, state of residence, and marital status. Cancer risk was elevated after a sleep disorder duration of 1 year (HR: 1.04, 95% confidence interval [CI]: 1.03-1.06), 5 years (HR: 1.23, 95% CI: 1.16-1.32), or 10 years (HR: 1.52, 95% CI: 1.34-1.73). Results among patients with only sleep apnea, insomnia, or other sleep disorder diagnoses were similar to those for all sleep disorders combined. Results from this study suggest that Veterans with a diagnosed sleep disorder have an increased cancer risk, and that risk increases with increasing sleep disorder duration. Optimal sleep and appropriate sleep disorder management represent modifiable risk factors that may facilitate cancer prevention.</p>

47-T	48
<p>Screening for Lung Cancer with Low-Dose Computed Tomography: Developing a Measure of Individual Health Beliefs</p> <p>Carter-Harris L, Ceppa D, Hanna N, Rawl SM</p> <p>Guidelines for screening individuals at high risk for lung cancer have only recently been developed. Lung cancer screening (LCS) is currently being implemented; however, for screening programs to be effective, it is critical to understand factors that may influence screening. Health Belief Model constructs have predicted cancer screening participation in other cancers and are likely to predict LCS participation. To understand individuals' beliefs about screening, valid and reliable, theoretically based instruments are needed. Specific aims included: (1) obtain feedback on newly developed scales to measure LCS health beliefs (perceived risk, perceived benefits, perceived barriers, and self-efficacy) among long-term smokers; and (2) establish content validity of the Lung Cancer Screening Beliefs Scales. Methods: To address Aim 1, four focus groups (n=26) were conducted; two focus groups of long-term smokers who had recently had LCS with LDCT (n=12) and two groups of long-term smokers who had never been screened (n=14). To address Aim 2, an expert panel of 10 behavioral scientists was assembled to evaluate the content validity of the scales. Results: Focus group participants reviewed the draft scales and provided item-level feedback on clarity, relevance, comprehensiveness, and appropriateness. The instruments were revised using participant feedback. Reactions to the draft scales were positive with specific feedback on item revisions and additions. An expert panel evaluated the content validity of the scales. Total scale content validity indices (CVI) indicate level of agreement for relevance of scale items range from .80 to .95 for the four scales. Based upon ten experts, a scale level CVI of .78 or greater indicates a scale is content valid. The survey instruments were revised further using expert feedback. Conclusions: Because screening does not happen without full individual participation, it is critical to understand the individual's perspective and beliefs about screening. Collectively, this preliminary work is important to establish psychometric assessment feasibility through content validation of the constructs of each scale.</p>	<p>Factors Associated with Time to Colonoscopy after Positive Fecal Occult Blood Test</p> <p>Chubak J, Garcia M, Burnett-Hartman A, Zheng Y, Halm EA, Corley D, Kamineni A, Singal A, Green BB, Doubeni CA, Klabunde CN, Rutter CM</p> <p>Fecal occult blood testing (FOBT) is a recommended strategy for colorectal cancer (CRC) screening. For FOBT to be effective, positive exams must be followed by colonoscopy. The purpose of this study was to estimate the time to follow-up colonoscopy and identify factors associated with follow-up time in community-based settings. Methods: This study was conducted as part of the NCI-funded consortium, Population- Based Research Optimizing Screening through Personalized Regiments (PROSPR). We identified 62,249 FOBT positive individuals in three PROSPR Research Centers between 1/1/2011 and 12/31/2012. Centers provided data on patient characteristics (age, gender, comorbidity, body mass index [BMI] , race/ethnicity, and prior CRC screening). Administrative data were used to identify subsequent colonoscopies. We used Kaplan- Meier curves, stratified by covariates, to explore each covariate and estimate median time to colonoscopy within strata. We tested for interactions between Research Center and each covariate. We then fit a Cox model including all covariates, stratified by Research Center, and estimated covariate hazard ratios (HR) and 95% confidence intervals (CIs). Results: The cohort was 54% male and 59% non-Hispanic white. The majority (61%) was aged ≥ 65 years, but 21% was >75 years. Overall, the median time to colonoscopy was 46 days after positive FOBT. By 6 months, 77% received follow-up colonoscopy; the percent increased to 80% at 12 months. Increasing age and comorbidity were associated with longer time to follow-up: HR= 0.66 (0.62-0.70) for age 76-84 vs. age 60-64, and HR=0.71 (0.68-0.73) for comorbidity score of 3+ vs. 1. People who had previously screened for CRC had shorter follow-up times than those who had not. BMI and gender were only weakly associated with follow-up time; no association between race and follow- up time was observed. Conclusions: Even in a primarily insured population, follow-up after positive FOBT is incomplete. Older patients and those with more comorbid conditions were at relatively low risk of completing a follow-up colonoscopy. This may present an opportunity for developing new interventions targeted at reducing follow-up times among persons who are colonoscopy candidates or reducing FOBT in persons who do not intend to undergo follow-up examinations.</p>

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<p>Quality of Bowel Preparation in Navigator-Facilitated Colonoscopy; A Multi-center Study Clarke Hillyer G, Lebwohl B, Obe V, Zhang L, Mitra T, Carlesimo M, Villegas S, Rosenberg R, Neugut AI</p> <p>Patient navigation to colonoscopy has greatly increased the number of individuals in the U.S. who have undergone screening for colorectal cancer. As screening rates steadily increase, now approaching 70% in New York City, quality of bowel preparation is becoming an important issue as it directly impacts the effectiveness of screening. We examined bowel preparation quality among individuals navigated to screening colonoscopy at 7 sites through the New York City Department of Health and Mental Hygiene Direct Referral and Patient Navigation program between 2010 and 2012. Methods: The records of 10,097 individuals were retrospectively evaluated to ascertain bowel preparation quality coded as poor vs. not poor. Information including patient demographic characteristics, medical insurance status and type (private, public, private/public, self-pay), and hospital site (Hospital A through G) was extracted from a multicenter, prospectively maintained Patient Navigator Database. Multivariate analyses were performed to assess associations between poor bowel preparation quality and study covariates. Results: The majority of individuals were 50-64 years (68.5%), female (60.7%), and Hispanic (42.6%) or African American (37.0%). The overall prevalence of poor bowel preparation was 5.0%, ranging widely between sites (1.1%-9.8%). Younger age (50-64 vs. 65+) was associated with an increased likelihood of poor bowel preparation (OR 1.76, 95% CI 1.42-2.19). Females (OR 0.83, 95% CI 0.72-.95) and individuals with combined public (Medicare and/or Medicaid) and private medical insurance coverage (OR 0.52, 95% CI 0.31-0.88) were less likely than uninsured/self-pay individuals to have a poor bowel preparation. Conclusions: Our findings provide insights to guide future interventions to improve bowel preparation quality in this highly successful CRC screening program in NYC that could likely result in increased diagnostic accuracy of colonoscopies and improved programmatic cost effectiveness.</p>	<p>Planning and Implementation of Low-Dose CT Lung Cancer Screening Programs in the U.S.: A Mixed Methods Study Eberth JM, Qiu R, Copeland A, Porter NG, McDonnell KK</p> <p>One of the largest and most expensive randomized controlled trials done in history, the National Lung Screening Trial (NLST) found that annual low-dose CT (LDCT) reduced lung cancer deaths by 20% in high-risk patients. The purpose of this study was to describe the characteristics and program implementation barriers experienced by LDCT screening programs in the U.S. Methods: Using a mixed methods approach, we surveyed and interviewed Lung Cancer Alliance Screening Centers of Excellence in 2013. Sixty-five Screening Centers of Excellence completed an electronic questionnaire, followed by an in-depth telephone interview with a convenience sample of thirteen center representatives including physicians and nurse navigators. Descriptive statistics and coding of themes identified from the interviews were completed by a team of four investigators. Results: Many institutions cited low patient demand and physician referrals as a significant barrier. In fact, 43% of centers reporting screened less than 50 patients since program initiation. In contrast, few institutions reported a need to hire additional staff (20%) and/or purchase new equipment (8%) to implement their screening program. 72.3% of institutions reported following National Comprehensive Cancer Network or NLST guidelines. Those interviewed discussed the importance of the multi-disciplinary team and the barriers of insurance reimbursement, cost, and lack of community and physician knowledge as key factors in program planning and implementation. Conclusion: Lack of reimbursement, low patient demand, low referrals, inadequate patient and physician knowledge, and screening costs were major barriers. Barriers must be minimized to support interventions encouraging physicians to refer patients for screening and to increase patient utilization. Additionally, supporting the development of quality lung cancer screening programs is a priority to ensure that screening guidelines utilized and nodule management protocols are standardized.</p>

51-T	52-T
<p>Effects of Cardiovascular Disease on Compliance with Cervical and Breast Cancer Screening Recommendations among Adult Women, NHIS 2013 Guo F, Hirth JM, Berenson AB</p> <p>Cervical and breast cancer can be detected early or prevented from progressing if recommended screening guidelines are followed. Cardiovascular disease (CVD) is common among women and is a leading cause of death in the US. It is unknown if cancer screening behaviors are affected by the presence of CVD among US adult women. This study assessed the impact of CVD on compliance with the US Preventive Services Task Force (USPSTF) guidelines for cervical and breast cancer screening among US adult women. Methods: A cross-sectional study was conducted on 17,408 women using data from the National Health Interview Survey (NHIS) 2013. A total of 11,788 respondents (21-65 years old) with complete information on Pap smear and 11,409 women (40+ years old) with complete information on mammography compliance were included. Multivariate logistic regression models were used to assess the impact of CVD on cervical and breast cancer screening practices. Variables adjusted for included age group, race, immigration status, region of residence, marital status, education level, family income to poverty threshold ratio, health insurance coverage, usual place of care, and visiting an obstetrician /gynecologist (OB/GYN) in the past year. Results: Women with CVD were marginally more likely to have had a mammogram in accordance with guidelines than those without CVD (69.9% vs 67.8%, adjusted odds ratio (OR) 1.17, 95% confidence interval (CI) 1.04-1.31). However, compliance with Pap tests was similar between the two groups (80.6% vs 82.3%, $p>0.05$). Those with a prior myocardial infarction (MI) were less likely than those without to comply with Pap smear guidelines (58.8% vs 82.1%, OR 0.30, 95% CI 0.18-0.51). Conclusions: Women with a prior myocardial infarction should be encouraged to continue receiving regular Pap smears. More research is needed to assess whether observed differences in Pap testing between patients with and without a history of myocardial infarction result from lack of provider recommendation, or patient noncompliance with their recommendations.</p>	<p>Leukocyte Telomere Length Differences among Colorectal Polyp Subtypes in a Colonoscopy based Study in Western Washington State Hardikar S, Phipps AI, Burnett-Hartman AN, Makar KW, Newcomb PA</p> <p>Short telomeres have been associated with increased risk of many cancers including bladder, esophagus, and stomach. However, the association between telomere length and colorectal cancer and its precursors, colorectal polyps, is not clear. We investigated the relationship between circulating leukocyte telomere length (LTL) and risk of colorectal polyp subtypes in a colonoscopy-based study in western Washington State. Study participants were 35-79 year-old enrollees at Group Health, an integrated health care system in Seattle, Washington, who underwent a colonoscopy between 1998-2007 (n=190). Participants completed a structured self-administered risk factor questionnaire, provided blood samples, and were distinguished as having adenomas (advanced, non-advanced), serrated polyps (hyperplastic, sessile serrated) or as polyp-free controls on the basis of a standardized pathology review. Telomere length (T) relative to a single copy gene (S) was measured in circulating leukocytes from stored buffy coat samples using quantitative polymerase chain reaction. Multivariable polytomous logistic regression was used to compare case groups with polyp-free controls and other case groups in both the adenoma-carcinoma and serrated pathways; odds ratios (OR) and 95% confidence intervals (CI) were estimated adjusting for age, sex, race, smoking status, obesity, and anti-inflammatory drug use. LTL in the shortest tertile (T/S ratio <0.58) was associated with increased risk of adenomas and serrated polyps [OR (95% CI) were 1.77(0.81-3.88) and 2.98(1.15-7.77), respectively]. When evaluated by lesion severity within each pathway, short LTL was more strongly associated with advanced adenomas and sessile serrated polyps [OR (95% CI)=1.87(0.76-4.73) and 3.82(0.86- 16.86), respectively], although the associations were not statistically significant. Our results suggest that short LTL may be associated with an increased risk of colorectal polyps in both the adenoma-carcinoma and serrated pathways. The risk was particularly notable for sessile serrated polyps, although the association was not statistically significant and sample size was limited. Future larger studies are necessary to further establish the potential relationship between LTL and risk of colorectal polyps.</p>

53-T	54-T
<p data-bbox="139 161 758 222">Patients' Barriers to a Diagnostic Resolution and Factors Associated with Needing Patient Navigation</p> <p data-bbox="139 226 758 287">Krok-Schoen JL, Brewer BM, Young GS, Tatum CM, Paskett ED</p> <p data-bbox="139 291 758 1486">Patient navigation, a patient-centered health care service delivery model, has been advocated as a possible approach to addressing barriers to cancer care. In 2012, the American College of Surgeons Commission on Cancer (CoC) announced that facilities seeking CoC accreditation need to have a patient navigation process in place by 2015. With such unfunded mandates, hospitals will be looking for cost-effective ways to implement patient navigation (i.e., direct resources to those who have barriers to care). This study examined demographic and psychological predictors of barriers to diagnostic resolution of a cancer screening abnormality among 424 patients from intervention clinics in the Ohio Patient Navigation Research Project. Descriptive statistics and logistic regression models were used to analyze the data. The mean patient age was 46.7 years and 71% of patients were White. Of the 424 patients, 151 (35.6%) reported a patient-, system-, or other-focused barrier to diagnostic resolution within the first 90 days from study consent. Patient factors of receiving treatment at federally qualified health centers ($P=0.03$), being non-white ($P=0.02$), having lower education ($P=0.008$), being unemployed or retired ($P=0.04$), having income less than \$50,000 ($P=0.006$), and being uninsured ($P=0.02$) were significantly associated with reporting one or more barriers to diagnostic resolution. Multivariable models found that the patient psychological variables of having a higher impact of life events avoidance score ($P=0.04$) and lower social functioning ($P=0.006$) were significantly associated with reporting a barrier to diagnostic resolution. These results suggest that barriers to diagnostic resolution are associated with multiple patient-level and psychological variables. CoC-accredited facilities need to have processes in place to identify, deploy navigators, and treat populations at particular risk for barriers to cancer care to assure quality, timely care for all populations.</p>	<p data-bbox="781 161 1403 222">Evaluation of Early Onset Pancreatic Cancer (EOPC) Patients Luu HN, Merchant NB, Roberts J, Fadiel-Beeghly A, Raskin L</p> <p data-bbox="781 226 1403 1976">In the US, pancreatic cancer incidence ranks 9th in women and 10th in men, but it ranks 4th in cancer mortality for both sexes. This is in part due to the lowest 5-year survival rate and the shortest median survival time of pancreatic cancer among all malignancies. With the mean age at diagnosis of 71, the majority of pancreatic cancers are diagnosed after age 60. However, it was hypothesized that early onset pancreatic cancer (EOPC) is a distinct subset of the disease that accounts for 5-10% of all pancreatic cancer cases. Research on EOPC is very limited with only few publications, probably because of the difficulties of studying a rare subset of a rare cancer. To investigate EOPC, we compared clinical characteristics and evaluated factors affecting survival in pancreatic cancer patients diagnosed before age 60 (EOPC) and after age 60 (typical age-at-onset) using Vanderbilt Cancer Registry data on patients at Vanderbilt Ingram Comprehensive Cancer Center (VICC) over 25 year period (from 1988 to 2013). Between 1988 and 2013, 1,699 pancreatic cancer patients were treated at VICC. Histologic types (i.e., adenocarcinoma, neuroendocrine, intraductal papillary mucinous neoplasms (IPMNs), and others) were reported using ICD-O-3 codes. Stage was reported using two systems: SEER stage (i.e., localized, in situ, regional metastasis, and distant metastasis) and American Joint Committee on Cancer-AJCC criteria (i.e., 0, I, II, III, IV). Characteristics between EOPC (<60 years) vs. typical age-at-onset cases (≥ 60 years) were compared using χ^2 test. Cox proportional hazards models were used to determine predictors of pancreatic cancer survival in a total model (age, sex, race, family history of any cancer, family history of pancreatic cancer, familial pancreatic cancer with at least one first degree relative (FDR), AJCC stage, histological type, chemotherapy, immunotherapy, radiation, surgery, any treatment, and metastases), as well as models stratified by age (<60 vs. ≥ 60) and histological type. Results Total follow-up was 2,403.9 years (male: 1,227.9; female: 1,176.0) with mean\pmSE of 1.5\pm0.1 years (both sexes). African Americans were more often diagnosed with EOPC (<60 years) than with typical age-at-onset pancreatic cancer (11% vs. 7%, $p=0.03$). Neuroendocrine tumors were overrepresented in EOPC (19% vs. 7%, $p<0.0001$), while adenocarcinoma was found more in typical age-at-onset cases (85% vs. 73%, $p<0.0001$). Almost 11% of patients with rare histological types (e.g. cystadenocarcinoma, pancreatoblastoma, or acinic cell adenocarcinoma) had familial pancreatic cancer (i.e. with at least one FDR with pancreatic cancer), while patients with adenocarcinoma, neuroendocrine tumors, and IPMNs had familial pancreatic cancer in only 6%, 2%, and 3% respectively ($p=0.0002$). Also, 46% of neuroendocrine tumor patients were diagnosed with stage 0+I, but only 9% of adenocarcinoma and 36% of IPMN patients ($p<0.0001$). EOPC patients with family history of any cancer had worse survival than those without family history of any cancer (HR=1.39, 95% CI: 1.04-1.87), although this difference was not observed in typical age-at-onset pancreatic cancer patients. Interestingly enough, EOPC patients diagnosed at AJCC stages 0+I had better survival than typical age-at-onset patients (HR=0.45, 95% CI: 0.24-0.84, $p=0.01$). Also, neuroendocrine EOPC patients had better survival than typical age-at-onset neuroendocrine tumor patients (HR=0.32, 95% CI: 0.10-1.00, $p=0.05$), unlike adenocarcinoma patients that had no differences in survival by age at diagnosis. The majority of cases had surgery alone (37%) or surgery+chemotherapy (31%), and only 7% had surgery+chemotherapy+radiation. Patients treated with surgery and chemotherapy had better survival; however, the impact of immunotherapy and radiation on survival was significant only in patients with typical age-at-onset disease (HR=0.17, 95% CI: 0.04-0.79 and 0.79, 95% CI: 0.63-1.00, respectively). Using data of 1,699 pancreatic cancer patients at Vanderbilt Cancer Registry we found that EOPC is a distinct subset of pancreatic cancer with higher prevalence of neuroendocrine tumors that is diagnosed more often in African American patients. Neuroendocrine tumor, early stage, and family history of any cancer are significant predictors of survival in EOPC but not in typical age-at-onset pancreatic cancer. Our data confirm the existence of EOPC as a subset of pancreatic cancer and warrant further investigation of EOPC, including genetics to improve early screening and prevention of pancreatic cancer.</p>

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<p>Serum Antibodies Do Not Protect Against Acquisition of Oral HPV16 in Men: The HIM Study Pierce Campbell CM, Kreimer AR, Viscidi, Lin HY, Fulp W, Abrahamsen M, Lazcano-Ponce E, Villa LL, Giuliano AR</p> <p>Approximately 70% of oropharyngeal cancers in the United States (US) are caused by oral HPV infection, with the majority caused by HPV type 16. Understanding factors associated with the risk of oral HPV will aid in cancer prevention efforts. Thus, we aimed to assess whether serum antibodies following a natural HPV16 infection were associated with a reduced risk of subsequent oral HPV16 infection in men. Methods: A prospective analysis was conducted within the HPV Infection in Men (HIM) Study oral subcohort. Men were residents of the US, Brazil, or Mexico, aged 18–73 years, and HIV- negative at baseline. Oral gargle specimens were collected every 6 months for up to 4 years and analyzed for HPV DNA using Roche Linear Array. Sera were collected, on average, 7.7 months prior to the first oral specimen collected, and tested for anti-HPV16 antibodies using a VLP-based ELISA assay. Antibody levels were categorized into quartiles, with the lowest 3 quartiles (including those with no detectable antibody) combined to represent men with “low” antibody levels and the highest quartile to represent men with “high” antibody levels. Cumulative risk of an incident HPV16 infection was estimated by the Kaplan-Meier method and hazard ratios (HR) were calculated using Cox proportional-hazards regression. Results: 1,618 men were followed for a median of 12.7 months (range: 0.5–37.2) after the first oral specimen was collected, during which 17 developed a new oral HPV16 infection. Overall, anti-HPV16 serum antibody levels were not associated with cumulative risk of oral HPV16 infection ($p=0.367$). During the first 12 months of follow-up, 0.8% of men with high antibody levels acquired oral HPV16 versus 0.4% of men with low levels. Within 24 months, 3.5% of men with high antibody levels acquired oral HPV16, versus 3.0% of men with low levels. The risk of acquiring oral HPV16 was 60% greater among men with high anti-HPV16 antibody levels than men with low antibody levels (HR: 1.6, 95% CI: 0.6–4.3), though this finding was not statistically significant. Conclusions: This is the first study to demonstrate that healthy adult men with relatively high levels of antibodies induced by a natural HPV16 infection do not appear to be protected against a new oral HPV infection.</p>	<p>Variation in the Distribution of Mammographic Breast Density across Radiologists Sprague BL, Herschorn SD, Weaver DL</p> <p>Elevated mammographic breast density impairs mammography performance and is an independent risk factor for developing breast cancer. Numerous states have enacted legislation mandating that women with dense breasts be informed of these issues and advised to discuss supplemental screening options with their providers. These laws put increasing importance on the qualitative assessment of breast density by radiologists using the BI-RADS lexicon (4 categories; the top two define “dense breasts” in the legislation). Methods: We assessed variation across radiologists in the percent of mammograms rated as having dense breast tissue. We used data from the Vermont Breast Cancer Surveillance System, which collects integrated patient and radiology data on all mammograms performed in the state. Eligible mammograms were restricted to screening exams conducted in 2011-2012 among women aged 40 years and older with no prior history of breast cancer. Data from radiologists interpreting less than 500 mammograms during the study period were excluded. During the study period, all mammography in Vermont was digital (i.e., not film) and there was no state level breast density legislation in place. Results: The final analytic sample included 104,386 screening digital mammograms interpreted by thirty radiologists. Overall, 30.7% of mammograms were reported to have dense tissue (heterogeneously or extremely dense). The percent of mammograms considered to have dense tissue ranged from 8.7% to 67.9% across radiologists, with three-quarters of radiologists falling between 26.5%-37.8%. Adjustment for patient factors (age, body mass index, family history of breast cancer, postmenopausal hormone use, and menopausal status) had little impact on the results, with the adjusted percent dense ranging from 12.3% to 74.3% across radiologists, with three-quarters of radiologists falling between 28.3% and 42.1%. Conclusions: The likelihood of a woman being labeled as having dense breasts is likely to vary widely according to which radiologist interprets her mammogram. Policy makers and health care providers should consider this variation when evaluating how breast density information should be integrated into screening recommendations and decision-making.</p>

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<p>Progression of Genital HPV Infection to Condyloma and Penile Lesions: the HPV Infection in Men (HIM) Study Sudenga SL, Ingles DJ, Pierce Campbell C, Lin HY, Fulp WJ, Messina JA, Stoler MH, Abrahamsen M, Villa LL, Lazcano-Ponce E, Giuliano AR</p> <p>The purpose of this study was to describe genital HPV progression to a histopathologically confirmed HPV-related external genital lesion (EGL): condyloma or penile intraepithelial neoplasia (PeIN). Methods: A prospective analysis nested within the HPV Infection in Men (HIM) Study was conducted among 1,785 HPV-positive men who had two or more follow-up visits, scheduled six months apart, from 2009-2012. At each visit, visually distinct EGLs were biopsied, subjected to pathological evaluation, and categorized by pathological diagnoses. Genital swabs and biopsies were used to identify HPV types using PCR and the Linear Array genotyping method. Incidence of EGL was determined from HPV infection estimating incidence rates and 6-, 12-, 24-month cumulative incidence. The proportion of HPV infections that progressed to EGL was also calculated along with median time to EGL development. Results: There were 125 men with an incident EGL during follow-up, 10 diagnosed with PeIN and 118 with condyloma lesions (a man could develop multiple lesions). During 12-months of follow-up 18% of men with a genital HPV6 infection developed a HPV6-positive condyloma. A genital HPV11 infection was more likely to progress to a HPV11-positive condyloma within 12-months (22%) compared to HPV6 genital infection (18%) however, the cumulative incidence of condyloma was similar for HPV6 and 11 at 24 months. During the first 12-months of follow-up, 0.5% of men with a genital HPV16 infection developed a HPV16-positive PeIN. By 24 months of follow-up, 0.9% of men with a genital HPV6 infection developed a HPV6-positive PeIN, and 1.4% of men with a genital HPV11 infection developed a HPV11-positive PeIN. Conclusions The quadrivalent (6/11/16/18) HPV vaccine contains the most common types (6/11/16) that progress to EGL, emphasizing the need to prevent future infections through HPV vaccination.</p>	<p>Breastfeeding, Parity, and Mammographic Breast Density Yaghjian L, Colditz G, Rosner B, Patel C, Tamimi R</p> <p>We evaluated the associations of parity, breastfeeding, and age at first child's birth with mammographic breast density (percent density, absolute dense and dense area). Additionally, we examined interactions of these risk factors with each other in relation to breast density. Methods: This study included 3,439 women free from breast cancer who were previously enrolled into a nested-case control study within the Nurses' Health Study (NHS) and Nurses' Health Study II (NHSII). Percent breast density, absolute dense and non-dense areas were measured from digitized film images with computer-assisted thresholding techniques. Information on parity (0, 1, 2, 3, and ≥ 4 children), age at first child's birth (<24, 24-29, and ≥ 30), and breastfeeding (none to 1 month, 1-6, >6-12, >12-18, >18-24, >24-36, and >36 months) as well as other breast cancer risk factors was obtained prospectively from biennial questionnaires completed before the mammogram date. We used multivariate linear regression models to describe the association of parity, age at first child's birth, and breastfeeding with breast density measures. Differences in the associations of these reproductive factors with breast density by their levels were tested with two-way interactions. We further examined these associations separately in pre- and postmenopausal women. Results: Compared to nulliparous women, parous women had statistically significant lower percent breast density ($\beta = -5.54$, $p < 0.0001$) and absolute dense area ($\beta = -14.15$, $p < 0.0001$). These differences in percent density and absolute dense area were greater in women with more children (2 and more) as well as in women with younger age at first child's birth ($p\text{-trend} < 0.0001$ for all). Among parous women, duration of breastfeeding was positively associated with absolute dense ($p\text{-trend} < 0.0001$) and non-dense areas ($p\text{-trend} < 0.0001$), but not with percent density ($p\text{-trend} = 0.82$). These associations were similar in pre- and postmenopausal women. We found no interactions between parity, duration of breastfeeding and age at first child's birth with regard to any of the three density measures. Conclusions: Parity is inversely associated with percent breast density in pre- and postmenopausal women.</p>

59	60-T
<p>Electronic Cigarette Use, Awareness and Perceptions in Cancer Patients</p> <p>Partington EJ, Harrington K, Schmalbach CE</p> <p>E-cigarettes (e-cig) are an emerging trend in tobacco but little is known about use in the high risk cancer population. The objectives of this study are to: 1) describe characteristics of e-cig use among cancer patients 2) Define e-cig advertising exposure 3) Characterize perceptions of traditional cigarettes and e-cig. Methods: Tertiary care center, inpatient cross sectional study of cancer patients currently smoking. E-cig use and advertising were identified using descriptive statistics. 2-tailed Student's t-test was used to compare perceptions of e-cig versus traditional cigarettes. Results: 39 cancer patients met inclusion criteria. The majority were female (59%) with an average age of 53.3 years. 94.9% of patients had heard of e-cig. 46.2% report e-cig use, most (88.9%) use as 'experimental or occasional'. Primary reason for e-cig use was to aid smoking cessation (30.8%), alternative smoking method in non-smoking areas (10.3%), and "less risky" cigarette alternative (2.6%). 58.9% of patients rated that they were likely to use e-cig in the future. The most common venue for e-cig exposure was TV (76.9%), stores (48.7%) and newspapers/magazines (12.8%), followed by friends (35.9%) and family (30.8%). Most patients (82.1%) had seen e-cig advertisements (median 10 in the past 6 months). Only 23.1% of patients purposefully sought information on e-cig. Most patients reported a significant desire to quit smoking (89.7%) and believed they would be successful (79.5%). On a scale from 0 (completely unlikely) to 10 (completely likely), patients identified cigarettes as a greater health risk compared to e-cig (7.65 vs 3.54, $p < 0.001$). E-cig were less likely to satisfy cravings (4.58 vs 7.24, $p < 0.001$) or to reduce negative emotional affect (7.07 vs 4.32, $p < 0.001$). Cigarettes were associated with a negative social impression (4.71 vs 3.12, $p < 0.001$) but also led to greater social opportunities (4.46 vs 3.19, $p = 0.017$). Conclusions: E-cig use and advertising exposure is common among the cancer population. E-cig use is perceived as more socially acceptable and healthier but less likely to satisfy both the physical and social dependency of cigarettes.</p>	<p>Cancer Screening and Perceptions in the Asian Indian Community</p> <p>Advani SM, Gor B, Dongardive R, Kabad K, Naik L, Kongovi G, Krishnan S, Dorai VK, Pande M, Legha S</p> <p>Cancer Screening and Perceptions in the Asian Indian Community Purpose: Asian Indians are the second largest Asian American population in Texas, increasing by 90% from 2000 to 2010 (from 129,365 to 245,981), yet little is known about the cancer incidence, its prevalence and survivorship issues in this rapidly growing population. To address this information gap, the Indian American Cancer Network(IACAN) collaborated with The University of Texas MD Anderson Cancer Center to conduct the South Asian Health Needs Assessment(SAHNA) project. Methods: The project goal was to collect self-reported health data from 1500 Asian Indians living in Houston using a survey tailored to the local Asian Indian community. Eligibility criteria included being a self-identified Asian Indian, being 18 years of age or older, with only one individual per household participating. The survey included questions on cancer, cancer knowledge and awareness, cancer risk perceptions, chronic medical conditions, cancer screening history and lifestyle factors and sources of cancer support and needs for cancer care. Results: 1525 participants completed the survey, 52% were male, mean age was 47, with a range of 18-87 years. 30% reported that they or a family member had been affected by cancer. The most frequently reported cancers were breast, colorectal, leukemia and prostate. 31% were unsure of where to get cancer information or services. The internet, physicians, and M.D. Anderson Cancer Center were most frequently cited as sources of cancer information and self and family the most frequently reported sources of support. Less than 50% of participants knew that family history of cancer increases personal risk of cancer or that cancer can occur without any symptoms. Thirty-seven percent of males >40 years of age had never been screened for prostate cancer, while 20% of women >40 years had never had a mammogram. Over 30% of participants 50 years and older had never had colorectal cancer screening. Conclusions: A significant percentage of Asian Indians in the Greater Houston area are affected by cancer. In spite of high educational and socioeconomic status, many are unaware of available cancer resources and may need greater access to cancer screening and support services.</p>

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<p>Menstrual hygiene practice and cervical cytology among women living in Bhutanese refugee camps and Eastern Nepal</p> <p>Johnson D, Lhaki P, Bhatta MP, Shrestha S</p> <p>Menstrual hygiene management (MHM) presents significant challenges for women in developing countries. Reproductive tract infections (RTI), such as bacterial vaginosis and vulvovaginal candidiasis, are known to be associated with poor menstrual hygiene practices, such as reusing old cloths without adequate washing. Changes in vaginal track composition caused by RTIs are associated with an increased likelihood of an abnormal cervical cytology or contracting sexually transmitted infections (STIs), such as HPV. Our study investigated risk factors associated with using old cloths versus disposable sanitary pads in women living in Eastern Nepal, including a subset of women living in eastern Nepal's Bhutanese refugee camps. Methods: 690 women participated in a two day reproductive health camp conducted by Nepal Fertility Care Center, a Nepali non-governmental organization. Experienced staff collected liquid based cervical cytology samples and administered a Nepali language survey instrument that included questions on socio-demographics, reproductive health and menstrual hygiene practices. Cervical cytology was assessed for research purposes using clinician-collected ThinPrep PreservCyt medium, with results classified according to the Bethesda criteria. Results: The average age of women was 38.7 years (SD 8.2). Approximately 16% of women lived in a refugee camp. Women living in a refugee camp were more likely to use disposable sanitary pads than old cloths (OR 2.92 95%CI 1.61 – 5.29). Women who were aware of STIs (OR 3.06 95%CI 1.75 – 5.34) and women who reported any formal education (OR 1.87 95%CI 1.01 – 3.46) were more likely to use disposable sanitary pads than old cloths. Older women were less likely to use disposable sanitary pads than old cloths (OR 0.93 95%CI 0.90 – 0.96). No association was found between the use of old cloths versus disposable sanitary pads and an abnormal cervical cytology (OR 1.40 95% CI 0.79 – 2.51) or testing positive for an STI (OR 1.23 95%CI 0.60 – 2.51). Conclusion: After adjusting for education, age, age at first marriage, and awareness of STIs the use of disposable sanitary pads versus old cloths for menstrual hygiene management was not significantly associated with testing positive for STIs or an abnormal cervical cytology.</p>	<p>Evaluation of Curcumin as a Chemopreventive Against Benzo[a]pyrene-induced Lung Carcinogenesis</p> <p>Puliappadamba Vineshkumar T , Thulasid, Jayesh A, Bava Smitha V, Anto R</p> <p>Benzo[a]pyrene is a pro-carcinogen present in environment and cigarette smoke which is bio-transformed in vivo to BPDE, a potent carcinogen, known to induce carcinogenesis in lungs. We observed that curcumin can inhibit BPDE-induced proliferation of lung cancer cell lines and down-regulate nuclear translocation of NF-κB and activation of MAPK pathway induced by BPDE. The ability of curcumin to inhibit mutagenic property of Benzo[a]pyrene was also established. These in vitro observations motivated us to evaluate the efficacy of curcumin, a known chemopreventive, to inhibit Benzo[a]pyrene -induced lung carcinogenesis and to explore the molecular mechanism associated with it. The average number of tumor nodules present in the lungs of the mice receiving benzopyrene were significantly high compared to that receiving Benzo[a]pyrene and 2% curcumin as diet. Curcumin treatment reverted back the histopathological deviations in the lung tissues due to Benzo[a]pyrene ingestion. Moreover, curcumin diet reduced Benzo[a]pyrene-induced activation of NF-κB and MAPK signaling in the lung tissues of Swiss albino mice. Taken together, this study illustrates the multi faceted efficacy of curcumin in preventing the activation of survival signals induced by BPDE and Benzo[a]pyrene in lung cancer cell lines and in lung tissues of mice respectively. Work is in progress to see whether nano-encapsulation can enhance the bioavailability and retention time of curcumin, thereby enhancing its chemopreventive efficacy against Benzo[a]pyrene-induced lung carcinogenesis.</p>

63	64-T
<p>Factors Influencing Skeletal Muscle Improvements among Breast Cancer Survivors involved in Weight-bearing Physical Activity Bea JW, Thompson P, Garcia DO, Stopeck A, Thomson CA</p> <p>Skeletal muscle plays an important role in physical and metabolic function. Post-menopausal breast cancer survivors commonly demonstrate loss of muscle mass during therapy. PURPOSE: To conduct a pilot feasibility study to evaluate the effect of weight bearing physical activity (PA) on skeletal muscle in Stage I-IIIa breast cancer survivors. Methods: Breast cancer survivors (n=23; age 56.6 ± 8.1 years; BMI: 29.8 ± 4.4 kg/m²) completed 8wks of weight bearing exercise, including supervised resistance training (2 d/wk) and home-based aerobic training. Study participants were evaluated at baseline and 8 wks for change in appendicular lean mass (aLM) using dual energy X-ray absorptiometry (DXA) and for change in strength using the 8-12 repetition maximum (RM) test. Self-report questionnaires captured medical history, medication use, diet, and demographics. Paired T-tests evaluated change in aLM and RM. Backward step-wise regression was run secondarily to explore the characteristics significantly effecting change in aLM, as well as RM, separately. Results: Significant increases in the primary endpoints of aLM (p=0.02) and RM (p<0.001) were observed, without change in BMI. Change in aLM was positively associated with change in RM and inversely associated with duration of anti-estrogen use (i.e. Tamoxifen or Raloxifene; $\beta=0.48$, $\beta=-0.40$, respectively, all p≤0.05) in the final model (Adj.R² = 0.30). Duration of aromatase inhibitor was not associated with change in aLM. Change in RM per kg body weight was inversely associated with duration of anti-estrogen use, age, and BMI ($\beta=-0.51$, $\beta=-0.54$, $\beta=-0.60$, respectively, all p≤0.05) and positively associated with time since diagnosis, sessions attended, and marital status ($\beta= 0.74$, 0.92, and 0.59, respectively, all p≤0.01) in the final model (Adj.R² = 0.35). Some participants had taken both aromatase inhibitors and anti-estrogens (N=6), but time since diagnosis did not correlate with duration of use of either medication. Conclusion: Age, BMI, and time since diagnosis, as well as hormone modulating therapy, appeared to influence skeletal muscle adaptation with physical activity post-breast cancer diagnosis and primary treatment. Each of these factors may be important to consider in physical activity intervention planning.</p>	<p>Weight Lifting and Physical Function among Breast Cancer Survivors: A Post Hoc Analysis of a Randomized Controlled Trial Brown JC, Schmitz KH</p> <p>Breast cancer survivors may experience deterioration of physical function. This is important because poor physical function may be associated with premature mortality, injurious falls, bone fracture, and disability. We conducted a post hoc analysis to explore the potential efficacy of slowly-progressive weight lifting to reduce the incidence of physical function deterioration among breast cancer survivors. Methods: Between October 2005 and August 2008, we conducted a single-blind, 12-month, randomized controlled trial of twice-weekly slowly-progressive weight lifting or standard care among 295 non-metastatic breast cancer survivors. In this post hoc analysis of data from the Physical Activity and Lymphedema Trial, we examined incident deterioration of physical function after 12-months, defined as a ≥10-point decline in the physical function subscale of the Medical Outcomes Short-Form 36-item (SF-36) questionnaire. We calculated the relative risk (RR) and 95% confidence interval (95% CI) using an unadjusted generalized linear model. Results: Study participants were 56±9 years old (range 36-80). Median adherence to the weight lifting protocol was 81% over 12-months. As compared with the control group, the weight lifting group had greater improvements in upper- and lower-body strength at 12-months (both comparisons P<0.001). The proportion of participants who experienced incident physical function deterioration after 12-months was 16.3% (24/147) in the control group and 8.1% (12/148) in the weight lifting group [RR: 0.49 (95% CI: 0.25-0.96); P=0.04]. No serious or unexpected adverse events occurred that were related to weight lifting. Conclusion: Slowly-progressive weight lifting compared to standard care reduced the incidence of physical function deterioration among breast cancer survivors. These data are hypothesis generating. Future studies should directly compare the efficacy of weight lifting to other modalities of exercise, such as brisk walking, to appropriately inform the development of a confirmatory study designed to preserve physical function among breast cancer survivors.</p>

65-T	66-T
<p>Associations of Race and Obesity with NSAID Use: Implications for Cancer Prevention Davis JS, Lee HW, Kim J, Advani SM, Banfield E, Frazier-Wood AC, Chang S</p> <p>Obesity and NSAID use (non-steroidal anti-inflammatory drug) are known to have opposing effects on cancer risk; therefore, we characterized NSAID use in the US population over time and by demographic characteristics with a particular interest in obesity. Methods: Two subsets of the nationally representative, National Health and Nutrition Examination Survey (NHANES) were used for this study: NHANES III (1988-1994) and all available continuous cycles from 1999-2004. Adults 20 years and older with data on over-the-counter (OTC) NSAID use, or information on prescription medications taken (including NSAIDs) were included. Participants numbered 18,766 and 14,698 from NHANES III and the 1999-2004 data, respectively. All NSAID use was summarized as a dichotomous variable and compared over time between survey groups using chi-square analysis, and by demographic characteristics using weighted logistic regression analyses. Results: Overall, prescription and OTC NSAID use declined over time. NSAID use was positively associated with overweight and obesity in Non-Hispanic (NH) White, NH Black and Mexican American populations, but not in races specified as "Other", or "Other Hispanic". For both NHANES surveys, the prevalence of NSAID use was significantly lower in non-White participants compared to White. In the 1999-2004 survey group, NSAID use is positively associated with increased age in all race/ethnic groups and female gender in NH Black and Mexican American groups after controlling for other variables. Conclusions: In contrast to other published reports, we observed declining NSAID use with time, although overweight and obese people were more likely to use NSAIDs in recent years. NSAID use was substantially lower in non-White groups compared to Whites across all time periods. Future planned studies will evaluate whether NSAID use is effective for preventing cancer death in both obese and lean populations. Additionally, if further studies confirm that lower use of NSAIDs by non-White groups contributes to cancer health disparities, our results suggest opportunity for further cancer prevention in these populations with NSAIDs.</p>	<p>Contribution of Modifiable Risk Factors to the Association Between Socioeconomic Status and Colorectal Cancer Incidence Hastert TA, White E</p> <p>Individual and area-level socioeconomic status (SES) have been associated with colorectal cancer (CRC) incidence; however, the extent to which modifiable risk factors explain the association is not well understood. Methods: We collected information about individual educational attainment and identified the census block groups of participants in the VITamins And Lifestyle (VITAL) Study cohort and constructed an SES index using data from the 2000 U.S. Census. Participants included 60,004 men and women ages 50-76 years with no history of CRC at baseline (2000-2002). Incident CRC cases (N = 554) were tracked through the Washington State death file over 8.0 years of follow-up. We tested whether modifiable risk factors including body mass index (BMI); physical activity; energy density of the diet; consumption of fruits and vegetables, red meat, and alcohol; smoking; and screening explained the association between individual education and area-level SES and CRC incidence using Cox proportional hazards models. Results: Living in the lowest-SES areas was associated with 38% higher CRC incidence compared with living in the highest-SES areas [hazard ratio (HR): 1.38, 95% confidence interval (CI): 1.04, 1.83], and CRC incidence was 45% higher in participants who did not complete high school compared with those who completed at least 4 years of college (HR: 1.45, 95% CI: 1.11, 1.90). Forward selection identified screening, smoking, and fruit and vegetable consumption as the modifiable risk factors most strongly associated with CRC incidence. After controlling for those factors, neither low individual (HR: 1.23, 95% CI: 0.91, 1.65) nor area-level SES (HR: 1.24, 95% CI: 0.92, 1.67) remained associated with CRC incidence. Further control for BMI, physical activity, red meat and alcohol consumption did not further reduce the observed associations. Conclusions: Individual and area-level SES are both associated with CRC incidence; however, these associations are largely explained by modifiable risk factors, particularly screening, smoking, and fruit and vegetable consumption. These could represent promising targets for interventions aimed at reducing the observed disparities.</p>

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<p>Can the “Hispanic Paradox” Shed Light on Childhood Cancer Risk?</p> <p>Heck JE, Park AS, Cockburn M, Ritz B</p> <p>The “Hispanic epidemiologic paradox” is the commonly observed phenomenon that foreign-born Hispanic mothers who emigrate to the United States have consistently good pregnancy outcomes, such as decreased rates of low birthweight. We examined whether this advantage extends to childhood cancer risk. Methods: The study included all children born in California from 1983-2007. Birthrolls were linked to California Cancer Registry records of children ages <6 who were diagnosed with cancer 1988-2007 (N=8710 cases, 9,519,438 controls). The mother’s Hispanic origin, ethnic ancestry, and country of birth were ascertained from the birth certificate. We used Cox proportional hazard models to estimate the risk for cancer based upon maternal birthplace and ethnic ancestry. Models stratified by tumor subtype and adjusted for maternal and paternal age. Summary of results: The children of foreign-born Hispanic women had lower rates of several cancers [acute lymphoblastic leukemia (ALL; odds ratio (OR)=1.05, 95% confidence interval (CI)=0.96-1.14); glioma (OR=0.51, 95% CI 0.43-0.59); neuroblastoma (OR=0.46, 95% CI 0.39-0.55)] in comparison to the children of US-born Hispanic women [ALL (OR=1.23, 95% CI 1.11-1.37); glioma (OR=0.75, 95% CI 0.62-0.90); neuroblastoma (OR=0.63, 95%CI 0.51-0.78); referent group was the children of US-born Whites]. The odds for rhabdomyosarcoma and acute myeloid leukemia were equivalent between Hispanics regardless of maternal place of birth. Hepatoblastoma was higher among the children of foreign-born mothers (OR=1.35, 95% CI 0.87-2.10) than those of US-born Hispanic mothers (OR=0.93, 95% CI 0.56-1.55) while bone tumors were higher among the children of US-born mothers (OR=2.08, 95% CI 1.11-3.88) compared to the children of foreign-born mothers (OR=0.73, 95% CI 0.38-1.41). Conclusions: With notable exceptions, the children of foreign-born Hispanic mothers tended to have cancer rates lower than those of US-born Hispanic mothers. Risk factors identified as driving the Hispanic paradox may be fruitful for study among these childhood cancer types.</p>	<p>Physical Activity, Sedentary Behavior and Vitamin D Metabolites</p> <p>Hibler EA, Sardo Molmenti CL, Dai Q, Jurutka PW, Jacobs ET</p> <p>Physical activity is a lifestyle factor known to influence circulating 25-hydroxyvitamin D (25D); however, the influence of activity and/or sedentary behavior on the seco-steroid hormone 1α,25-dihydroxyvitamin D (1,25D) is unknown. We therefore sought to evaluate associations between physical activity, sedentary behavior, and circulating vitamin D metabolite concentrations among 878 participants from the ursodeoxycholic acid randomized trial for colorectal adenoma prevention. Linear regression models were used to evaluate continuous measures of vitamin D metabolites, while logistic regression was used for models including tertiles of 1,25D and/or the Institute of Medicine threshold for vitamin D insufficiency (25D < 20 ng/ml). All models were mutually adjusted for either 1,25D or 25D, respectively. Variables considered as confounding factors were included in the final model if they changed the effect estimate by more than 10%, and interactions were evaluated using the likelihood ratio test. The results demonstrated a statistically significant increase of 0.76 pg/ml 1,25D (95% CI 0.29-1.23) per hour increase in moderate-vigorous physical activity per week (defined as ≥ 3 METs per activity) ($p \leq 0.01$), as well as increased odds of higher 1,25D for individuals reporting activity levels in the highest versus lowest tertiles (OR 2.27 95% CI 1.49-3.04). Furthermore, we observed a 1.47 ng/ml increase in 25D per hour increase in moderate-vigorous activity ($p < 0.01$), which corresponded to 2.68 times (95% CI 1.59-3.21) increased odds of 25D >20 ng/ml, versus <20 ng/ml, for those in the highest tertile of activity compared to the lowest. However, sedentary behavior (≤ 1.5 METs per activity) was not significantly associated with circulating concentration of either metabolite, nor were any statistically significant interactions between activity measures identified. The results of the current study identified novel associations between physical activity and 1,25D levels, independent of 25D concentrations, as well as support the results of previous studies demonstrating a relationship between 25D and activity. However, future studies are needed to ascertain the biological mechanism driving this relationship and its applications toward cancer prevention.</p>

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<p>Changes in the Gut Microbiome of Breast Cancer Survivors with Improved Cardiorespiratory Fitness Hyndman LN, Kumar R, Ptacek T, Morrow C, Roger LQ</p> <p>The gut microbiome may modulate breast cancer risk and post-therapy outcomes through metabolic, immune and hormonal mechanisms. Although exercise is known to improve breast cancer outcomes, to date, no study has reported whether exercise can impact the gut microbiome in breast cancer survivors. Therefore, the primary aim for this proof of concept pilot study was to examine gut microbiome changes in five breast cancer survivors who improved their cardiorespiratory fitness during a 6-month period. Differences based on age, race, breast cancer stage, prior chemotherapy, prior radiation, months since diagnosis, and diet macrocomposition were considered. Fitness was measured using a submaximal treadmill test at baseline and six months. Fecal samples were obtained from anal wipes and processed by the UAB Comprehensive Cancer Center Microbiome Analysis facility. Microbial DNA was used as a template for PCR to amplify the V4 region of 16S rRNA and 250 bases (paired end) were sequenced using Illumina MiSeq. DNA sequences were analyzed to determine the microbial composition and relationships of the samples. Mean age was 55±11 years; three were African-American and two were White. For cancer stage, one had ductal carcinoma in situ, three had Stage 1, and one had Stage 3. One had received chemotherapy and three had received radiation. Time since diagnosis was 57±23 months. We found that changes in the gut microbiome were correlated with improvements in cardiorespiratory fitness. Indicators of gut microbiome improvement identified included increased overall microbiome diversity (alpha diversity) and a 3-fold increase in the abundance of the beneficial Bacteroides. These preliminary data suggest that improving cardiorespiratory fitness correlates with beneficial changes in the gut microbiome in breast cancer survivors. Further study is warranted to assess the role of exercise in microbiome management and how this role may improve the health and well-being of breast cancer survivors.</p>	<p>Initiation of Non-steroidal Anti-inflammatory Drug Use in Seattle Colon Cancer Family Registry Hua X, Hardikar S, Adams SV, Phipps AI, Burnett-Hartman AN, Newcomb P</p> <p>Non-steroidal anti-inflammatory drugs (NSAIDs) are widely used in the general population and have been proven to be associated with both decreased colorectal cancer (CRC) risk and mortality. We aimed to examine the prevalence of NSAID use prior to and after CRC diagnosis in cases, and their unaffected first degree relatives over a comparable time period. Methods: Study subjects included incident CRC cases (N=654) and their unaffected first degree relatives (N=1827) in the population-based Seattle Colon Cancer Family Registry. Interviewers administered questionnaire to cases and relatives shortly after the cases' CRC diagnosis. This questionnaire ascertained demographic characteristics, lifestyle factors and medical history at a reference date approximately 2 years prior to the interview date (i.e., pre- diagnosis period); a follow-up questionnaire was administered approximately 5 years after the cases' diagnosis (i.e., post-diagnosis period). The prevalence of NSAID use (defined as taking aspirin or ibuprofen at least twice a week for more than a month) was calculated for cases and relatives. Among those not using NSAIDs in the pre- diagnosis period, multivariate logistic regression was used to compare the odds of NSAID use initiation between cases and relatives. Results: The prevalence of NSAID use among cases changed from 58% to 68% over the five-year period, while for relatives, it increased from 55% to 65%. Among 1109 NSAID non-users, 621 (56%) started using NSAIDs in the post-diagnosis period (58% in cases, 55% in relatives). After adjusting for age and sex, NSAID use initiation did not differ in cases versus relatives (odds ratio (OR) =1.09, 95% confidence interval (CI): 0.82 - 1.46). Increasing age (OR =1.12, 95% CI: 1.07- 1.17) per 5-year of age increase) and male sex (OR=1.39, 95% CI: 1.09-1.78) were associated with NSAID use initiation. Conclusion: The prevalence of NSAID use increased over time following a CRC diagnosis. However, this pattern was consistent between cases and relatives. Increasing age may partially explain the increase in NSAID use over time. Future studies are needed to further investigate post-diagnosis behavior changes, including NSAID use, among CRC survivors and in comparison to population-based controls.</p>

71	72-T
<p>Characterization of the Microbiome in Benign Lung Nodules and Matched Serum Samples Aldrich MC, Brucker RM, Grogan EL, Bordenstein SR, Massion PP</p> <p>Recent attention has focused on understanding the role of the microbiome in human disease. Known bacterial and fungal infections occur in the lung and often present as indeterminate pulmonary nodules. Invasive techniques such as surgery are often required to determine if the nodule is malignant. There is a need for less invasive tools to distinguish cancer versus benign, which would be beneficial to the clinician and patient. We tested whether the microbiome identified in benign nodules could also be identified in the serum of the same individuals. We sequenced the 16S ribosomal RNA (rRNA) bacterial and internal transcribed spacer (ITS) rRNA fungal genes in serum and frozen tissue stored in the Vanderbilt Thoracic Program biorepository from five patients with surgically resected benign lung nodules. Libraries were prepared using the NuGEN Encore multiplex library and high-throughput sequencing was conducted with the Illumina MiSeq. Data were analyzed using Quantitative Insights into Microbial Ecology (QIIME) software to identify operational taxonomic units (OTUs) and assess microbial community structure. GreenGenes and UNITE reference databases were used for annotation of bacterial and fungal communities, respectively. Three patients had granulomas, one patient had pulmonary fibrosis and one patient had Eisenmenger Syndrome. We were able to obtain quality reads from both tissue and serum for bacterial communities. A total of 226 different bacterial OTUs were identified, ranging from N=26 OTUs in a non-smoker patient with fibrotic granuloma to a maximum of N=131 in a former smoker with pulmonary fibrosis. Shared bacterial communities were observed between blood and tissue. The most frequent bacterial species were Halomonas (10-44% of sequences, average of 36%) and Bacilliales (14-48% of sequences/sample, mean 36%) in the frozen tissue, whereas the serum had a high frequency of Burkholderia (4- 58% of sequences, mean 35%) and nearly absent in the frozen tissue. Only one bacterium was not found in serum but present in normal tissue - Clostridium perfringens. For bacterial communities, COPD explained 7% of the variance, antibiotic use explained 12% of the variance, and disease state explained 65% of the variants in beta-diversity. For fungal communities, disease state explained 37% of the variance. Blastomyces were the most prevalent fungal communities present in both tissue and serum. There are shared bacterial and fungal communities between blood and frozen tissue, suggesting blood may be a proxy for difficult to sample tissues, potentially enabling less invasive approaches for assessment of disease. Funding: NCI-EDRN U01 CA152662 and NCI CA172294</p>	<p>Single Nucleotide Polymorphisms in DNA Repair and Oxidative Stress-related Genes, Dietary Alpha- and Gamma-tocopherol Intake, and Prostate Cancer Aggressiveness Antwi S, Steck SE, Su LJ, Taylor JA, Hebert JR, Zhang H, Fontham ETH, Bensen JT, Smith GJ, Mohler JL, Arab L</p> <p>Despite compelling evidence that oxidative stress, ineffective DNA repair, and habitually low antioxidant intake may act in concert to influence prostate carcinogenesis, few studies have examined gene-diet interactions involving these factors, especially in relation to prostate cancer (CaP) aggressiveness. This study investigated whether single nucleotide polymorphisms (SNPs) in DNA repair and oxidative stress-related genes modified associations between alpha- and gamma-tocopherol intake and CaP aggressiveness. Methods: Data from African-American (AA, n = 948) and European-American (EA, n = 1,016) research subjects in the case-only North Carolina-Louisiana Prostate Cancer Project (PCaP) were utilized. CaP aggressiveness was defined as high aggressive (Gleason sum ≥ 8 or PSA >20 ng/mL, or Gleason sum ≥ 7 and cancer stage T3–T4); or low/intermediate aggressive (all others). Dietary intakes of alpha- and gamma-tocopherol were assessed using a food frequency questionnaire, and genotypes of 30 DNA repair and oxidative stress-related SNPs were examined. Logistic regression was used to estimate odds ratios (ORs) and 95% confidence intervals (CI) contrasting high aggressive CaP with low/intermediate aggressive CaP. Results: Interaction between XRCC1 (rs2854508) genotype and α-tocopherol intake was observed among AAs and EAs (Pinteraction = 0.01 and 0.04, respectively). Among research subjects with the TT genotype, higher alpha-tocopherol intake was related inversely to CaP aggressiveness, while an inverse association was not observed among AT or AA genotype carriers. A similar pattern of effect modification by XRCC1 (rs2854508) was observed for association between gamma-tocopherol and CaP aggressiveness, but only among AAs (Pinteraction = 0.03). Effect modifications by variants in XPA (rs3176644), NOS3 (rs1799983) and OGG1 (rs1805373) also were noted. Conclusion: Beneficial effects of alpha- and gamma-tocopherol intake in relation to CaP aggressiveness were dependent on genotype, suggesting that dietary recommendations may require personalization based on genomic profile to maximize their impact on cancer prevention.</p>

73	74-T
<p>Association of Polymorphisms in Selected Growth Factor and Immune Signaling Genes with Susceptibility to Multiple Myeloma: a Pooled Analysis by the Multiple Myeloma Cohort Consortium</p> <p>Birmann BM, Hofmann JN, Machiela MJ, Giles GG, Lan Q, Manson JE, Neuhaus ML, Patel AV, Purdue MP, Teras LR, Yuan J-M, Anderson KC, Hartge P, Landgren O, Colditz GA</p> <p>Multiple myeloma (MM) is an incurable plasma cell malignancy of unknown etiology. We undertook the present study to further evaluate suggestive published associations with MM susceptibility for single nucleotide polymorphisms (SNP) in biologic pathways with important roles in MM pathogenesis, such as insulin-like growth factor (IGF)-I and interleukin (IL)-6. Methods: We determined the genotype for 124 SNPs in 599 MM cases and 1045 matched controls pooled from eight cohorts in the MM Cohort Consortium. Using multivariable (matching factor and body mass index (BMI)-adjusted) unconditional logistic regression we calculated odds ratios (OR) and 95% confidence intervals (CI) for MM per copy of a minor allele and performed mutual adjustment of suggestive SNPs to assess their independence. We summed the number of higher-risk alleles across the independent loci to assess MM risk per copy of risk allele. We defined a comparisons-adjusted statistical significance criterion of $p < 0.00047$ (based on "simpleM" methods yielding 107 independent tests). Results: The SNPs were not significantly associated with MM at a comparisons-adjusted level. Of 12 SNPs with nominal or marginal associations with MM risk, five showed suggestive independent positive associations (weakest: rs4833103 in TLR1-TLR6-TLR10, OR (95% CI) per copy of A: 1.20 (1.03-1.40), $p=0.02$; strongest: rs9341193 in IGF1P2, OR (95% CI) per copy of T: 1.75 (1.17-2.63), $p=0.01$) and two had apparent inverse associations (rs11574780 in IL6ST, OR (95% CI) per copy of C: 0.65 (0.44-0.95), $p=0.03$; and rs6002551 in TNFRSF13C, OR (95% CI) per copy of A: 0.82 (0.65-1.03), $p=0.09$). MM risk was nominally significantly increased per copy of higher-risk allele across all the suggestive SNPs and across the suggestive IGF-1-related SNPs (ORs of 1.25-1.29, p-values < 0.0001). Conclusions: We observed suggestive independent associations with MM risk for seven SNPs related to growth factor or immune signaling pathways that are important in MM pathogenesis. Although not significant at a comparisons-adjusted criterion, the findings are biologically plausible and support published studies on MM susceptibility. These loci and pathways merit further evaluation as potential contributors to inherited predisposition to MM.</p>	<p>The Effects of Tualang Honey on the Microbiome and UVB-induced Processes in a Murine Model of Squamous Cell Carcinoma</p> <p>Burns EM, Ahmad I, Chang ME, Abdelgawwad M, Cabaniss L, Shaheen A, Muzaffar A, Huda S, Foy T, Kumar R, Ptacek T, Elmets CA, Morrow CD, Yusuf N</p> <p>The purpose of our study was to investigate the potential of Tualang honey to affect the microbiome as well as UVB-induced DNA damage, inflammation, and carcinogenesis in Skh-1 hairless mice. Male and female mice received Tualang honey (0.2% v/v) in drinking water for two weeks prior to a single exposure of UVB (1 MED). In the carcinogenesis study, female mice received Tualang honey (0.2% v/v) in drinking water for 10 weeks. For the next 15 weeks, mice were exposed to UVB (180 mJ/cm²) three times weekly on non-consecutive days, along with water supplemented with Tualang honey. Mice were then monitored for tumor development for an additional 10 weeks, while still receiving the Tualang honey in drinking water. Fecal samples were collected at baseline, following two weeks of honey supplementation, and after UVB (1 exposure, 10 weeks of exposures, and after tumor development). DNA was isolated and samples were sequenced to examine the microbiota present. We examined DNA damage and repair as well as inflammatory mediators in murine skin to assess the potential antioxidant and anti-inflammatory effects of Tualang honey, and we calculated tumor number and burden to examine the anti-cancer effects of Tualang honey. Our data demonstrate that Tualang honey decreases DNA damage and inflammatory mediators while increasing DNA repair mechanisms following UVB exposure. Mice that received Tualang honey developed fewer tumors overall and exhibited a decreased tumor burden compared to untreated mice. Upon examination of the microbiota, we found different populations in treated versus untreated mice as well as in male and female mice. Taken together, our results support the potential of Tualang honey as a preventive treatment for non-melanoma skin cancer. Future studies will examine the effects of Tualang honey on the microbiome and UVB-induced carcinogenesis in male mice to investigate potential sex-based treatment effects.</p>

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<p>Human Health Concerns Resulting from Inhalation of Ignition Particulate Chester-Paul K L, Krekeler MPS, Silverstein J</p> <p>Although the harms of tobacco smoke are well established in the literature, a more thorough understanding of the potential health effects of particulate emitted from ignition sources is in short order as it may identify an additional health hazard accompanying smoking. Both match and cigarette lighter particulate have been studied using scanning electron microscopy (SEM), and cigarette lighter particulate has been studied using a transmission electron microscopy (TEM), which engages a beam of electrons to pass through an extremely thin sample, enabling the viewer to study a given specimen extensively. Elemental analysis was done using both the SEM and TEM, and diffraction was performed using the TEM only. In matches, the particulate was comprised predominantly of calcium, sodium, silica, and potassium, all of which are naturally occurring in the human body. These particles were either elongated or spherical in shape and approximately 25-100µm in diameter. Their content as well as their large particle size presented no foreseeable health risks. SEM investigation indicated particulate from lighters, however, was more varied in both size and morphology. A larger population contained particles that were around 100µm in size, whereas a smaller set had particles that varied from 2-20µm in size. These had either a spherical or platy texture and have a high rare earth element (REE) content dominated by lanthanum and cerium. TEM investigation of spherical particles indicates they are crystalline as indicated by electron diffraction. TEM investigation also indicates the presence of a nanoscale high surface area anastomosing particulate not observed in SEM. Collectively the composition in addition to their exceedingly small particle size REE particulate presents a variety of health concerns. In summary, these studies have determined that match particulate, comprised predominantly of potassium and calcium is significantly less hazardous than the rare earth element particulates emitted from a cigarette lighter. These rare earths include cerium and lanthanum which have poorly understood toxicity. The scientific literature on the topic suggests toxicity to other forms of life as well as workers exposed to these materials industrially. Effects include disruption of mitochondrial function as well as the production of free radicals and reactive oxygen species (ROS) in the body. ROS damage in the body can produce cellular upset, ultimately leading to serious diseases including but not limited to cancer. Additional studies will be needed in order to better understand the mechanism by which this particulate interacts with the human body, though this study thus far has demonstrated that there is significant cause for concern.</p>	<p>Decaffeinated Coffee and Increased Risk of Renal Cell Carcinoma Parker AS, Eckel JE, Arnold ML, Diehl NN, Serie DJ, Custer KM, Wu K, Cheville JC, Thiel DD, Leibovich BC</p> <p>The etiology of renal cell carcinoma (RCC) remains poorly understood. Related to this, investigators have reported some evidence of an inverse association of coffee consumption and RCC; however, data regarding decaffeinated coffee are limited. Materials and Methods: We utilized data from 669 incident RCC cases and 1,001 controls matched on age, sex and state of residence. Participants completed a risk factor questionnaire that included separate questions about caffeinated and decaffeinated coffee consumption. We employed logistic regression analysis to estimate odds ratios (ORs) and 95% confidence intervals (95% CIs). Results: After multivariable adjustment for other RCC risk factors, consumption of decaffeinated coffee (never vs. ever) is associated with a 35% increase in RCC risk (OR= 1.35; 95% CI = 1.04 – 1.75; p=0.015). We did not observe evidence of a dose response; however, the association with decaffeinated coffee is more pronounced among females (OR= 1.84; 95% CI =1.22 – 2.78; p=0.003) and those who reported never consuming alcohol (OR= 3.89; 95% CI =2.06 - 7.35; p<0.001). We noted similar results when we limited cases to only the clear cell RCC subtype and we report evidence that the association is slightly more pronounced for more aggressive forms of clear cell RCC. Conclusions: We provide evidence that consumption of decaffeinated coffee is associated with an increase in risk of RCC, especially among women and those who do not consume alcohol. Impact: While validation is required, current and historical methods used for decaffeinating coffee (i.e. exposure to solvents) underscores the importance of further inquiry.</p>

77	78-T
<p>Obesity is Associated with the Development of a Less Aggressive Phenotype of Clear Cell Renal Cell Carcinoma Custer KM, Eckel JE, Diehl NN, Thiel DD, Parker AS</p> <p>Obesity increases the risk of clear cell renal cell carcinoma (ccRCC); however, its association with indolent versus aggressive ccRCC phenotypes is unclear. Given the paradox that obese individuals are at greater risk of ccRCC but have better survival once ccRCC develops, we examined the association of obesity with development of indolent versus aggressive ccRCC as determined by the Mayo SSIGN score. Materials and Methods: We identified 669 histologically confirmed ccRCC cases from our prospective Renal Mass Registry. We matched these cases on age, sex and state of residence to 1069 controls from the Mayo Biobank who reported no history of kidney cancer. Cases and controls completed a risk factor survey that included questions on height as well as weight at various times and other ccRCC risk factors (i.e. smoking history, hypertension, and alcohol consumption). We used data from a centralized pathology review of surgical tumor blocks to categorize cases based on their Mayo SSIGN score (0-2=indolent, 3+ = aggressive). The SSIGN score has been externally validated as a strong predictor of ccRCC aggressiveness. We used 'usual adult weight' to calculate body mass index (BMI) and formed the following categories: <25kg/m² (referent), 25-30 kg/m² (overweight) and >30kg/m² (obese). We employed polychotomous logistic regression, odds ratios (ORs) and 95% confidence intervals (CIs) to explore the univariate and multivariate association of obesity with risk of indolent versus aggressive ccRCC. Results: After adjusting for age, the association of obesity is stronger for indolent (OR=2.53, 95% CI 1.70 – 3.77) compared to aggressive (OR=1.44, 95% CI 0.98 – 2.12) ccRCC. Adjustment for other covariates did not alter this observation. Most notably, after adjusting for age, gender, smoking status, hypertension and alcohol consumption, obesity remained more strongly associated with indolent (OR= 2.14; 95% CI 1.40 - 3.27) versus aggressive (OR= 1.14; 95% CI 0.75-1.73) ccRCC. We observed a similar, less pronounced pattern for overweight individuals. Conclusions: We employ a validated clinical prognostic scoring system to provide the first epidemiologic evidence that obesity is specifically associated with the development of more indolent ccRCC.</p>	<p>Blood DNA Methylation and Lung Cancer Risk in Non-smoking Women Results from a Multicenter Case-control Study in Central and Eastern Europe Davis AM, Tao MH, Chen J, Scelo G, Zaridze D, Lissowska J, Rudnai P, Fabianova E, Bencko V, Janout V, Foretova L, Mates D, Mates IN, Boffetta P</p> <p>Aberrant DNA methylation has been attributed to carcinogenesis and many other diseases. We investigated the associations between the level of peripheral blood DNA methylation and risk of lung cancer in non-smoking women from a multi-center case-control study conducted in Central and Eastern Europe. Methods: This study included 84 primary, incident lung cancer cases and 181 controls in non-smoking females recruited in the Czech Republic, Hungary, Poland, Romania, Russian, and Slovakia from 1998 to 2001. Information on risk factors was collected through in-person interviews. Global methylation level was assessed in peripheral blood DNA with Luminometric Methylation Assay (LUMA). Unconditional logistic regression was utilized to estimate odds ratios (ORs) and 95% confidence intervals (95% CI) for associations of DNA methylation in the blood with lung cancer risk. Results: The mean level of blood DNA methylation was 68.34% and 68.03% for cases and controls, respectively. There was no association between the level of LUMA methylation and risk of lung cancer in non-smoking women. Overall, we did not find any significant association of global methylation levels with lung cancer risk stratified by exposure to indoor air pollution nor environmental tobacco smoking. There was no evidence of difference within strata defined by age of diagnosis and alcohol consumption. There were indications that decreased level of global methylation was associated with increased risk of lung cancer among overweight (BMI>25) women, but blood DNA methylation was not associated with lung cancer in normal weight women (p interaction =0.058). Conclusions: Our preliminary findings found no significant associations between global methylation from blood DNA and risk of lung cancer in non-smoking women. Future large-scaled studies, including cohort studies, are necessary to elucidate the complex relationship among potential risk factors, methylation changes and lung carcinogenesis in non-smoking women.</p>

79-T	80
<p>T Cell Receptor Diversity and Persistent Human Papillomavirus 16 Infection Lang Kuhs KA, Lin S, Hua X, Schiffman M, Rodriguez AC, Herrero R, Abnet C, Freedma N, Pinto L, Hamm D, Robins H, Hildesheim A, Shi J, Safaeian M</p> <p>T cell responses against human papillomavirus type 16 (HPV16) infection are important for preventing cervical neoplasia. T cell recognition of HPV antigens is largely determined by the usage of different V, D and J gene segments within the hypervariable complementarity-determining region 3 (CDR3) of the β-chains of the T cell receptor (TCR). We conducted a case-control study within the Guanacaste HPV Natural History Study to determine the association between CDR3 TCR sequences and development of HPV16-related cervical intraepithelial neoplasia grade 3 (CIN3). Novel next-generation high-throughput sequencing of DNA extracted from peripheral blood mononuclear cells was used to compare the TCR β-chain CDR3 repertoires of i) cases: women with histologically confirmed HPV16-related CIN3 (n=25; samples collected at time of referral for abnormal cytology) to ii) controls: women without CIN and who had cleared an incident HPV16 infection within a 12 month period (n=25; samples collected at the visit when infection was no longer detected). For each sample, T cell repertoire alpha diversity (the total number of unique CDR3 amino acid sequences) and the marginal relative abundances of each V (n=51), D (n=2) or J (n=13) gene segment usage within the CDR3 sequences was calculated and tested for association with case-control status. Receiver operating curve analysis was used to evaluate the potential of T cell repertoire alpha diversity and each V, D or J gene segment to differentiate cases-control status. Irrespective of read depth, TCR alpha diversity was positively associated with CIN3 ($P<0.01$). Of the individuals V, D, J gene segments evaluated, the V gene TRBV6-7 was inversely associated with CIN3 (0.1% and 0.2% relative abundance in cases and controls, respectively) and remained significant after multiple testing correction (unadjusted $P=2 \times 10^{-5}$). The estimated area under the curve was 0.78 using the relative abundance of V genes; 0.75 using the alpha diversity and 0.81 when incorporating both measures. The alpha diversity and V gene usage within the TCR β-chain CDR3 repertoire was significantly associated with development of CIN3. Follow-up is needed to confirm these early findings in larger studies and using specimens from pre-diagnostic time points.</p>	<p>Cancer Risk in Children with Birth Defects: A Population-Based Registry Linkage Study, 1992-2011 Lupo PJ, Copeland G, Scheurer ME, Danysh HE, Plon SE</p> <p>The establishment of population-based birth defects surveillance programs provides an opportunity to systematically evaluate the risk of cancer among children with specific birth defects avoiding the bias of surveys conducted in genetics clinics. Purpose: Determine the association between specific birth defects and childhood cancer to aid in the discovery of previously unrecognized genetic syndromes. Methods: We examined cancer risk in a population-based cohort of children with and without birth defects born between 1992 and 2011 by linking data from the Michigan Birth Defects Registry, the Michigan Cancer Surveillance Program, and birth records from the Michigan Department of Community Health. Incidence rate ratios and 95% confidence intervals were calculated to determine the risk of cancer among children with all reported birth defects. Results: We identified a birth cohort of 2,566,771 live births for the study period. There were 225,599 infants with birth defects and a total of 4,354 children with cancer. Overall, children with birth defects were three times more likely to be diagnosed with cancer compared to their unaffected contemporaries (IRR=3.24, 95% CI: 3.02-3.47). The risk of childhood cancer was seen among most birth defects including: central nervous system defects (IRR=4.28, 95% CI: 3.48-5.27); eye and ear defects (IRR=2.02, 95% CI: 2.02, 95% CI: 1.55-2.65); cardiac and circulatory defects (IRR=2.22, 95% CI: 1.93-2.56); and gastrointestinal defects (IRR=3.05, 95% CI: 2.48-3.76). Not surprisingly children with an underlying chromosomal abnormality at a high cancer risk (IRR=7.81, 95% CI: 6.36-9.59). The only birth defect evaluated where there was not an association with childhood cancer was oral clefts (IRR=1.11, 95% CI: 0.60-2.06). Conclusions: Children with birth defects are at an increased risk of developing cancer. These results are consistent with previous studies and reinforce the utility of record linkages between population-based registries for epidemiologic assessments. The specific associations will allow molecular studies to determine if common developmental pathways underlie the etiology of birth defects and childhood cancer. Funding: Cancer Prevention Research Institute of Texas RP140258 and Alex's Lemonade Stand Foundation</p>

81	82
<p>The Changing Role of GDF15 (growth/differentiation factor 15) during Prostate Carcinogenesis Rybicki BA, Chitale DA, Gupta N, Jackson L, Wheeler T, Trudeau S, Jankowski M, Rundle A, Bobbitt K, Tang D</p> <p>GDF15 (growth/differentiation factor 15) is a divergent member of the TGFβ superfamily of cytokines and is highly expressed in prostate tumors, but its role in prostate carcinogenesis and utility as a prognostic biomarker is unclear. We studied 58 prostate cancer cases (35 Whites and 23 African Americans) that underwent surgery as their primary treatment and were then subsequently followed for biochemical recurrence (BCR). In these cases, which also had a benign prostate biopsy at least one year before their prostate cancer diagnosis, we quantified GDF15 expression in their pre-malignant benign prostate, prostate tumor and tumor adjacent benign prostate tissue. GDF15 expression levels were analyzed for association with high grade prostate cancer and BCR. Twenty- six percent of cases had high grade cancer defined as Gleason score 8 or higher or a Gleason score of 7 and a primary Gleason of 4. During follow-up, 11 cases (19%) experienced BCR (80 percent of men without BCR had at least 2 years of follow-up). GDF15 expression was not associated high grade cancer in any prostate tissue types. GDF15 expression was associated with BCR, but the direction of the association was dependent upon the type of prostate tissue expression measured. Evidence of GDF15 expression in pre-malignant benign prostate was associated with an almost 9-fold increased risk of BCR (Hazard Ratio (HR)=8.90; 95% confidence interval (CI) = 1.09-72.49), even after adjusting for race, tumor grade and stage. When we stratified men into low and high expression groups, we also found a significant gradient of risk with increased GDF15 expression (p=0.03). The opposite was found for GDF15 expression in tumor tissue, where men with low GDF15 expression had a decreased risk of BCR (HR= 0.30; 95% CI= 0.06- 1.59), and men with high GDF15 expression were at an even lower risk (HR= 0.10; 95% CI= 0.02-0.61). Expression of GDF15 in tumor adjacent benign prostate tissue was not associated with BCR. The role GDF15 plays in prostate carcinogenesis is complex and may change during the course of tumor development. Our results suggest GDF15 exerts a pro-tumorigenic effect very early in prostate carcinogenesis, but later after the tumor becomes clinically apparent, GDF15 may act more in an anti-tumorigenic manner.</p>	<p>Breast Cancer Tumor Gene Expression and Pre-Diagnosis Sleep Duration Thompson CL, Gilmore H, Varadan V, Parsai S, Harris L</p> <p>Disruptions in circadian rhythm, including short sleep, influence a significant proportion of our normal biology. We previously found that short sleep prior to diagnosis was associated with higher likelihood of recurrence as well as higher tumor grade in breast cancer. In this study, we attempted to better understand the biological mechanisms by which short sleep may influence breast cancer aggressiveness by evaluating the correlation of tumor gene expression with average hours of sleep per night prior to diagnosis. Methods: We selected 45 incident breast cancer patients with available tumor specimens who were previously queried on lifestyle factors, including average nightly sleep duration prior to diagnosis, from an ongoing case-control study. We used the Affymetrix Human Transcriptome Array 2.0 to evaluate gene expression in tumors. We first correlated expression levels with self-reported sleep duration using a standard Pearson correlation. We then split the sample into women who reported at least 7 hours of sleep per night (N=32) and those who reported fewer hours of sleep per night (N=13), and evaluated differences in gene expression using a standard t-test. We chose the most strongly correlated genes (defined as those with an R>0.3 and t-test p<0.05) for pathway-based analysis using the Pathway Interaction Database (PID) (pid.nci.nih.gov). Results: The expression of 357 annotated genes were found to be associated with sleep, including Estrogen- Related Receptor Beta (ESRRB), which was increased in short sleepers (R=-0.38, t-test p=0.0010), and PIK3R1, which was decreased in short sleepers (R=0.43, t-test p=0.023). The PID analysis suggested that the top pathways altered in short sleepers were BMP receptor signaling (p=7.7 x 10⁻⁴) and notch signaling (p=2.3 x 10⁻³). Conclusions: Our data suggests that gene expression in tumors from short versus long sleepers are different and may reflect a difference in underlying biology due to insufficient sleep. Further work is warranted to validate these findings as well as understand if other aspects of sleep, such as sleep quality, alter the same or different pathways, as well as if these pathways may be targets for additional therapeutic interventions among women with short sleep.</p>

83	84
<p>Association of Sleep Duration, Body Mass Index, and Glucocorticoid Receptor Expression in Breast Cancer Pannunzio AM, Thompson CL, Gilmore HL</p> <p>The glucocorticoid receptor (GR) has been implicated in the pathogenesis of breast cancer. Previous studies have demonstrated that GR activation via cortisol is anti-apoptotic. Cortisol is known to be elevated in both situations of obesity and sleep deprivation. The goal of this study was to examine the relationship between GR expression and tumor aggressiveness with obesity and sleep duration. We hypothesized that GR and Ki-67 expression would be altered in invasive breast cancers in patients who are obese and/or are short sleepers, and may represent a potential biological mechanism for the associations of BMI and sleep duration with breast cancer outcomes. Tissue microarrays (TMAs) were constructed from patients (N=72) with known invasive breast carcinoma. Patients were previously queried for lifestyle, including sleep duration and BMI. GR expression was assessed by immunohistochemistry (NCL-GCR, Novocastra) and scored based on intensity (0, none; 1, weak; 2, moderate; 3, strong) and percent staining (0, none; 1, 1-25%; 2, 26-50%; 3, 51-75%; 4, 76-100%). These values were multiplied to obtain an H-score from 0-12 for GR. Ki-67 (30-9, Ventana) proliferation index was assessed by manual scoring of the number of tumor cells with positive staining to give a percentage. Standard Pearson correlation coefficients were calculated for scores with both average sleep duration and BMI. A t-test was used to compare short sleepers (≤ 6.5 hours per night, N=21) to long sleepers (≥ 7 hours per night, N=45) as well as obese (BMI>30kg/m², N=23) to non-obese (BMI<30kg/m², N=43). There was no statistically significant association between GR or Ki-67 expression and sleep duration. However, there was a statistically significant correlation between BMI and GR expression H-score (R=-0.26, p=0.036), a GR H-score was statistically significantly lower among obese patients (mean=3.05, SD=3.08) compared to non-obese (mean=5.14, SD=4.05, p=0.050). Surprisingly, obese patients were found to have lower GR expression than non-obese patients despite the fact that they are thought to have higher levels of cortisol. Further studies are needed to assess if these correlations hold in larger populations and if GR may be a therapeutic target for obese breast cancer patients to improve outcomes.</p>	<p>Associations of Obesity with Prostate Cancer Risk Differ between U.S. African-American and non-Hispanic White Men: Results from the Selenium and Vitamin E Cancer Prevention Trial Barrington WE, Schenk JM, Etzioni R, Arnold KB, Neuhouser ML, Thompson IM, Lucia MS, Kristal AR</p> <p>African-American (AA) men have the highest rates of prostate cancer incidence and mortality in the US. Understanding underlying reasons for this disparity could identify preventive interventions important to AA men. PURPOSE: To determine whether the association of obesity with prostate cancer risk differs between AA and non-Hispanic white (NHW) men and whether obesity modifies the excess risk associated with AA race. METHODS: This is a prospective study among 3398 AA and 22673 NHW men who participated in the Selenium and Vitamin E Cancer Prevention Trial (2001-2011). Using Cox regression, we estimated hazard ratios (HRs) and corresponding 95% confidence intervals (CIs) associated with AA and NHW race and body mass index (BMI) [kg/m²] on total, low- (Gleason score <7), and high-grade (Gleason score ≥ 7) prostate cancer incidence while adjusting for relevant covariates. RESULTS: There were 270, 148, and 88 cases of total, low-, and high-grade prostate cancers among AA men and a corresponding 1453, 898, and 441 cases in NHW men (median follow-up of 5.6 years). BMI was not associated with risk of total cancer among NHW men, but was positively associated with risk among AA men (BMI<25 kg/m² vs. ≥ 35 kg/m², HR= 1.49; 95% CI: 0.95, 2.34; Ptrend=0.03). Consequently, the risk associated with AA race increased from 28% (HR=1.28; 95% CI: 0.91, 1.80) among men with BMI<25 kg/m² to 103% (HR=2.03; 95% CI: 1.38, 2.98) among AA men with BMI≥ 35 kg/m² (Ptrend=0.03). BMI was inversely associated with low-grade prostate cancer risk among NHW men (BMI<25 kg/m² vs. ≥ 35 kg/m², HR= 0.80; 95%CI: 0.58, 1.09; Ptrend=0.02), but positively associated with risk among AA men (BMI<25 kg/m² vs. ≥ 35 kg/m², HR= 1.77; 95% CI: 1.14, 2.76; Ptrend=0.05). BMI was positively associated with risk of high-grade prostate cancer in both NHW (BMI<25 kg/m² vs. ≥ 35 kg/m², HR=1.33; 95% CI: 0.90, 1.97; Ptrend=0.01) and AA men (BMI<25 kg/m² vs. ≥ 35 kg/m², HR= 1.81; 95%CI: 0.79, 4.11; Ptrend=0.02), but associations were not significantly different. CONCLUSION: Obesity is more strongly associated with increased prostate cancer risk among AA than NHW men and reducing obesity among AA men could reduce the racial disparity in cancer incidence. Research is needed to test mechanisms underpinning these associations.</p>

85-T	86-T
<p>Prevalence and Predictors of Overweight Status Among Survivors of Childhood Acute Lymphoblastic Leukemia Brown AL, Lupo PJ, Okcu MF, Danysh H, Scheurer ME, Pierce M, McGehee C, Kamdar KY</p> <p>Research suggests that pediatric acute lymphoblastic leukemia (ALL) survivors are at an increased risk of overweight and obesity compared to their unaffected contemporaries; however, this observation is based primarily from studies among non-Hispanic whites. This study aims to describe the prevalence and correlates of overweight status among an ethnically diverse population of childhood ALL survivors. Methods: The study population included pediatric ALL patients diagnosed between 1972 and 2008 that were treated and followed by Texas Children's Cancer Center. Patient demographic and clinical data were abstracted from medical records. Individuals with a Body Mass Index (BMI) $>25 \text{ kg/m}^2$ (≥ 19 years of age) or >85 percentile for age and sex (<19 years of age) were classified as overweight. The prevalence of overweight among childhood ALL survivors was compared to the U.S. general population prevalence estimated from NHANES 2011-2012 data. Logistic regression models were constructed to describe the relationship between patient characteristics, treatment variables, and overweight status. Results: Post-therapy BMI was available for 365 Hispanic ($n=158$) and non-Hispanic white ($n=208$) patients with a mean follow-up of 11.4 years post-diagnosis. The prevalence of overweight was 59.2%, 44.1%, and 50.9% among survivors currently aged 6-11, 12-19, and >19 years, respectively. Compared to the general U.S. population, the prevalence of overweight was 73% higher among survivors ages 6-11, 28% higher among survivors ages 12-19, and 16% lower among survivors over 19 years of age. Hispanic ethnicity (Odds Ratio [OR]=2.15; 95% Confidence Interval [CI]:1.41-3.27), being overweight (OR=6.65; 95% CI:2.86-17.19) at the time of diagnosis, and receipt of cranial radiotherapy (OR=2.03; 95% CI:1.11-3.74) were all associated with overweight status post-therapy. Conclusions: The prevalence of overweight is higher among younger (<19 years of age) survivors of childhood ALL than the general population. Certain patient and clinical characteristics, including ethnicity, patient BMI at diagnosis, and cranial radiotherapy, may predict post-therapy overweight status. This information may help identify childhood ALL patients that are at increased risk of being overweight following treatment.</p>	<p>Effects of Pterostilbene on Breast Cancer Cells, in vitro Daniel M, Tollefsbol TO</p> <p>Pterostilbene is a naturally occurring phytoalexin that is found primarily in blueberries and has been shown to exhibit anticancerous properties. This study was designed to investigate the cellular and molecular effects of pterostilbene treatment on breast cancer cells. MTT, colony forming, and FACS analyses were performed to determine the antiproliferative effects of drug treatment, as well as to evaluate levels of toxicity. Telomerase reverse transcriptase (hTERT) is the catalytic subunit of the telomerase enzyme and is often upregulated in many cancers, leading to their evasion of cellular senescence and continued replication. We performed qPCR and western blots to evaluate the effects of pterostilbene on the hTERT gene and its protein expression. Collectively, we found that treatment with pterostilbene inhibits the proliferation of MDA-MB-231 and MCF-7 breast cancer cells in both a time- and dose-dependent manner without significant toxicity to control cells. Moreover, treatments decreased colony forming potential in both cancer cell lines in a dose-dependent manner. hTERT expression was also shown to be decreased after treatment with pterostilbene. In conclusion, these results provide promising insights into the use of dietary compounds like pterostilbene as an alternative form of cancer therapy.</p>

87-T	88-T
<p>Body Mass Index and Delay in Diagnosis of Colorectal Cancer Dyer KE, Dumenci L, Siminoff LA, Elston Lafata J</p> <p>Identifying patients at risk of delays in cancer diagnosis and treatment is important as such delays can lead to poor morbidity and mortality outcomes as well as to anxiety and malpractice claims. We describe the relationship between body mass index (BMI) and length of (1) appraisal and (2) diagnostic delays among symptomatic colorectal cancer (CRC) patients. Methods: Data were collected through two-hour semi-structured interviews with 252 patients newly diagnosed with Stage I-IV CRC who had been experiencing symptoms prior to healthcare consultation. Interview data were supplemented with medical record data on BMI. Appraisal delay was defined as time in months between symptom onset and seeking care. Diagnostic delay was defined as time in months between initial physician office presentation and pathology-confirmed diagnosis. Unadjusted and adjusted multivariate regression models were used to simultaneously test associations between both types of delays and BMI. M-Plus was used for model estimation. Results: Mean age of the sample was 57.9 years (SD=12.4), with 49.2% female, and 43.4% black. The sample was relatively evenly split across BMI categories: 30.2% normal weight (BMI=<24.9), 32.4% overweight (BMI 25-29.9), and 37.4% obese (BMI>=30). Mean BMI was 29.2 (SD=7.2; range=13-60.8). Median appraisal delay was 2.3 months (IQR=4.9; mean=5.1; SD=9.5) for normal weight individuals, 2.0 months (IQR=4.3; mean=3.5; SD=4.3) for overweight individuals and 2.4 months (IQR=7.6; mean=5.3; SD=7.2) for obese individuals. Median diagnostic delay was 1.2 months (IQR=3.0; mean=4.1; SD=8.8) for normal weight individuals, 1.4 months (IQR=5.5; mean=4.3; SD=8.0) for overweight individuals and 2.8 months (IQR=10.1; mean=7.0; SD=8.9) for obese individuals. In multivariate regression, BMI was positively associated with increased appraisal delay ($\beta = .145$, $p = .043$) and increased diagnostic delay ($\beta = .177$, $p = .012$). Conclusions: Delays in diagnostic assessments for obese, symptomatic CRC patients occurred both in the context of individuals' own assessment of symptom severity and care-seeking behavior as well as in physicians' assessment of clinical symptoms.</p>	<p>Adiponectin-induced Alterations in Autophagy: Uncovering New Avenues for Control of Breast Cancer Progression Falk Libby E, Liu J, Lewis MJ, Frost AR, Demark-Wahnefried W, Hurst DR</p> <p>Each year, metastatic breast cancer causes an unacceptable number of deaths in women. Obesity is among the risk factors linked to poor breast cancer prognosis and metastasis. A putative mechanism underlying this association is an aberrant level of adiponectin. While multiple epidemiological studies have indicated that low levels of circulating plasma adiponectin portend poorer prognosis, recent work has reported that elevated adiponectin expression in breast tissue is, in fact, correlated with more advanced disease. Thus, the purpose of this work is to elucidate how adiponectin in breast tissue acts directly on tumor cells to regulate the early steps of metastasis. Our hypothesis is that adiponectin alters metastatic potential of breast cancer cells via autophagy induction. To begin to test this premise, we discerned the effects of globular versus full-length adiponectin on invasive and migratory phenotypes of a human metastatic breast cancer cell line (MDA-MB-231). In transwell assays with and without Matrigel, globular adiponectin increased invasion (91%; $p < 0.001$) and migration (222%; $p < 0.05$) compared to untreated cells, whereas full-length adiponectin had no significant effect. Rapamycin, an established autophagy inducer, elicited effects similar to globular adiponectin (increase of 210%; $p < 0.001$ in invasion and 238%; $p < 0.05$ in migration). Likewise, three-dimensional growth in Matrigel revealed that cells treated with globular adiponectin and rapamycin developed extended spikes indicative of a more invasive phenotype; cells treated with full-length adiponectin maintained a less invasive grape-like structure. Biochemical assays of autophagic induction supported these observations, demonstrating increases in LC3B-II expression (immunoblot) and the number of intracellular LC3B puncta (immunofluorescence) upon treatment with globular, but not full-length, adiponectin. Together, these results suggest a plausible model linking a specific adiponectin isoform with autophagy induction to stimulate breast cancer metastasis. Overall findings will reveal novel roles for tissue adiponectin, and may provide mechanistic insight to guide lifestyle interventions and therapeutic strategies that will reduce breast cancer's heavy morbidity and mortality burden.</p>

89-T	90
<p>Evaluating a Worksite-based Environmental Change Program Using the RE-AIM Framework Li J, Linnan L, Finkelstein EA, Tate D, Evenson KR, Ennett S</p> <p>Healthy food environments at workplaces can potentially influence employee's dietary habits and obesity, and thus reduce the risk of cancer. The purpose of the study was to apply the RE-AIM framework to examine a minimal-intensity worksite-based environmental change intervention called the Winner's Circle Dining Program (WC). Methods: The WC was offered to all 17 participating community colleges as the usual care in a group-randomized controlled trial. Organizational and individual level data were used to measure RE-AIM constructs (e.g. Reach, Effectiveness, Adoption, Implementation, Maintenance) at baseline, 3, 6, and 12 months. The interactions between the placement of WC stickers and the individual-level interventions (i.e., a web-based weight loss program and cash incentives) as well as their main effects on changes in individual's weight (or healthy eating) at 3, 6 and 12 months were examined using the hierarchical linear models. Results: Nine community colleges (53%) placed WC stickers at the cafeteria and/or vending machines over a 12-month period. Less than one-half of the participating employees purchased items with the WC logo. Placing WC stickers in the cafeteria or on vending machines significantly enhanced the effects of the individual-level intervention on weight loss among the overweight and obese participants who used campus food services (N=626). Conclusions: WC was adopted and implemented by both employers and employees. It has the potential to interact with the web-based weight loss program and incentives. WC alone did not have a significant impact on employee's weight or healthy eating behaviors during a 12-month intervention period.</p>	<p>Poster withdrawn</p>

91-T	92-T
<p>BENZO(A)PYERENE [B(a)P]-INDUCED Colon Tumorigenesis is Enhanced by Western Diet in the PIRC Rat Model Via Proinflammatory Mechanisms Harris KL, Pulliam SR, Niaz MS, Okoro E, Guo Z, Washington MK, Adunyah S, Ramesh A</p> <p>The objective of this study was to investigate the effect of dietary fat type on benzo(a)pyrene [B(a)P]-induced colon cancer in an adult male rat model, the Polyposis In the Rat Colon (PIRC) kindred type. METHODS: Groups of PIRC rats (n = 5) were fed with AIN-76A regular diet (RD) or Western diet (WD) and received 25,50 and 100 µg B(a) P/kg body wt. via oral gavage for 60 days. Rats fed diets alone, but no B(a)P, served as controls. Subsequent to exposure, rats were sacrificed; blood samples were collected and concentrations of cholesterol, triglycerides, leptin, glucose, insulin, and adiponectin were measured. Colon tissues were scored for tumors, and preserved in 10% formalin for observation of pathological changes. Colon and liver samples were analyzed for activation of drug metabolizing enzymes (DMEs) CYP1A1, CYP1B1 and GST. RESULTS: Rats that received WD + B(a)P showed increased levels of cholesterol, triglycerides, leptin, and insulin in comparison to RD + B(a)P groups and controls. Glucose levels showed a significant increase (p < 0.001) at 100 µg B(a)P/kg body wt. + WD only. The concentrations of adiponectin did not vary much between WD and RD groups for all the B(a)P doses used. The colon tumor counts were more in B(a)P + WD rats compared to their B(a)P + RD counterparts, and also exhibited a B(a)P dose- response relationship, with 100 µg B(a)P/kg registering greater counts. An increased incidence of adenomas and high grade dysplasia were encountered in rats that were fed with WD compared to RD and controls (p < 0.05). Immunohistochemical analyses of colon tissue samples for PCNA, cyclin D1, TGF-α, and β-catenin revealed increased levels of cell proliferation and nuclear positivity among all treatment groups. Western diet consumption increased DME activation among rats that were given B(a)P. CONCLUSION: Our results demonstrate that WD accelerates the development of colon tumors induced by B(a)P through proinflammatory action, characterized by gain in tumor number and sizes, and body weight loss. This research was supported from NIH grants 1F31ES02407901, 5R01CA142845-04, 5T32HL007735-19, 5R25GM059994-11, and Southern Regional Education Board.</p>	<p>Changes in Body Weight During and After Treatment for Colorectal Cancer Winkels RM, Snetselaar T, Adriaans A, van Lieshout R, Kampman E, Beijer S</p> <p>Prevalence of overweight and obesity is high among colorectal cancer patients at diagnosis. Literature suggests that body weight may increase during adjuvant chemotherapy for colorectal cancer. However, so far, weight changes from diagnosis until after treatment have not been studied in this patient group. Methods: The study population consisted of 485 stage II/III colorectal cancer patients treated with surgery and adjuvant chemotherapy (2007-2012) in three hospitals in the Netherlands. Eligible patients were selected from the Netherlands Cancer Registry. Data about body weight (at diagnosis, shortly after surgery, shortly after chemotherapy and 6 months after chemotherapy) and other personal/clinical factors were retrieved from the cancer registry and from medical records. Results: The number of patients of whom information on body weight could be retrieved from medical records during the various periods of interest varied between n=242 and n=357. From diagnosis until shortly after surgery, patients on average lost weight (mean weight loss -1.9kg, SD 4.6kg) (n=357). Body weight increased during chemotherapy with a mean of 2.9kg (SD 5.8kg) (n=291) and continued to increase in the period until at least six months after chemotherapy by 2.2kg (SD 6.6kg) (n=242). Overall, from diagnosis until at least 6 months after chemotherapy, there was a mean weight gain of 2.0kg (SD 6.8kg) (n=283). Factors associated with weight gain over the total period were a normal BMI (as compared to patients with a BMI of 25-30) and open surgery (as compared to laparoscopic surgery). Conclusions: Generally, body weight decreased from diagnosis until shortly after surgery, while it increased again during and after chemotherapy. At least 6 months after chemotherapy, body weight was higher than at diagnosis. Studies among other patient groups - mostly breast cancer - suggest that these changes may be characterized by unbeneficial changes in body composition. Future studies should focus on changes in body composition during treatment of colorectal cancer patients.</p>

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<p>Quality of Life in Long-term Colorectal Cancer Survivors and Their Relatives in the Seattle Colon Cancer Family Registry</p> <p>Adams SV, Ceballos R, Zheng Y, Newcomb PA</p> <p>Five-year survival for colorectal cancer (CRC) is 65% overall and higher for localized disease, making quality of life (QoL) experienced by long-term survivors and their families an increasingly important area. Relatives may play key roles as care-givers and in providing social support and care to CRC survivors, but the long-term impact of CRC on the relatives' QOL has not been previously evaluated. Methods: We assessed QoL using the Short Form-12 (SF-12) with 1,021 CRC survivors and 2,981 first-degree relatives participating in the population-based Seattle Colon Cancer Family Registry, approximately 5 years post-diagnosis. PCS and MCS distributions were compared with US reference populations, and between survivors and relatives. Linear regression was used to compare mean PCS and MCS measurements adjusted for personal characteristic (e.g., age, sex, smoking history, BMI, race, education) between survivors and relatives and to compute least-squares adjusted mean PCS and MCS. Multivariable logistic regression was used to estimate odds ratios (ORs) and confidence intervals (CIs) of PCS or MCS below the cut-point for the 10th percentile in the reference US population (PCS or MCS <37.18), adjusted for personal characteristics. Results: Mean PCS and MCS among survivors and relatives were comparable to previously reported values in the US general population of similar ages. Overall, survivors had lower unadjusted mean PCS than relatives (45.1 and 48.6, respectively, $P<0.001$) but higher MCS (54.1 and 52.9, $P<0.001$). However, adjusted for personal characteristics, mean PCS differed only modestly between survivors and relatives (41.2 and 42.3, $P=0.013$), and mean MCS did not differ (51.9 and 52.0, $P=0.82$). Compared to relatives, survivors had 29% (95% CI: 6-56%) higher adjusted odds of PCS below the 10th percentile in the general population. No difference between survivors and relatives in odds of low MCS was observed (adjusted OR: 1.01 [0.71-1.44]). Conclusions: A disproportionate number of long-term CRC survivors experienced lower physical QoL. However, on average, CRC patients and family who survived approximately 6 years from the survivor's diagnosis returned to typical QoL, in spite of possible continuing challenges stemming from CRC.</p>	<p>Promoting Prevention Studies Using a Cancer Advocacy Organization</p> <p>Anderson KB, Gottlieb A, Neuhouser ML, Lackey EM</p> <p>This is a description of how an advocacy organization can be used to help promote adult prevention studies being conducted by SWOG, a member of the National Cancer Institute's National Cancer Trials Network. Background: Enlisting the help of patient advocates has been supported by health care providers for years. The advocate's role started with sharing their own experiences and then expanded to include patient education, organizing support groups and increasing awareness. Advocacy organizations vary by those who support patients to those that create and support health care changes and legislation. Survivors are at risk for recurrence and second primaries so prevention is of paramount interest. Survivors have a network of co-workers, family and friends who may be more aware of cancer as a result of supporting the survivor. This opens a broad network of contacts based on survivors. Methods: Gilda's Clubs, a member of the Cancer Support Community (GCS) since 2009, offers a community-based support program of social, emotional and educational support for youth and adult cancer survivors, their families and friends. There are more than 50 GCS local affiliates in the US. Gilda's Club Seattle has over 191,000 connections statewide. They serve about 10,000 members annually. Over 92,000 people have attended their health fairs, events and outreach programs over the past several years. They have over 27,000 survivors and family members participating in support groups. Their member demographics are comparable to the Washington state demographics. Summary: Using the GCS outreach, the study promotional strategies for SWOG prevention trials have included distributing fliers and brochures, sending email blasts to members, and placing ads in their newsletter. The GCS Director has shared her network of contacts from other local and national organizations willing to assist SWOG. GCS also offered a lecture series so study representatives can meet and talk with survivors, their families and friends. The GCS Director is a member of the SWOG Patient Advocacy Committee which is made up of 13 members who are either survivors or representatives of advocacy organizations. Conclusions: Advocacy organizations will gladly let you know what they can do to help promote your local or a national study or connect you with other organizations or resources to help. So don't just think of them for therapeutic studies but also for prevention studies. Reach out to local advocacy organizations to get a broader perspective of their activities and resourcefulness for prevention of recurrent or new cancers.</p>

95-T	96-T
<p>Pretreatment Serum Carotenoid Concentrations Predict Head and Neck Cancer Recurrence and Survival Arthur AE, Bellile EL, Rozek LS, Peterson KE, Ren J, Harris E, Mueller C, Peterson LA, Wolf GT, Djuric Z</p> <p>The purpose of this study was to evaluate the associations of pretreatment serum carotenoids, tocopherols, and quercetin with prognosis in a cohort of patients with newly diagnosed head and neck cancer (HNC). Methods: This was a longitudinal study of 154 patients with newly diagnosed HNC. Blood specimens were collected and epidemiologic health surveys collected prior to treatment. Serum levels of carotenoids, tocopherols, and quercetin were measured by HPLC. Clinical data on recurrence and death events were confirmed from medical records, the Social Security DeathMaster File, notification from family, and yearly survey updates. Cox proportional hazard models were used to examine the association of serum nutrient levels (fit by tertiles of exposure) with time to recurrence and mortality. Results: During a median follow-up time of 37 months, there were 32 recurrences, 27 deaths. After controlling for age, body mass index (BMI), tumor site, cancer stage, and tobacco use, subjects in the highest versus the lowest tertile of serum xanthophyll and total carotenoid concentrations were significantly less likely to experience a recurrence (HR 0.11; 95% CI 0.03, 0.43; P = 0.002 and HR = 0.21, 95% CI 0.06, 0.79; P = 0.02, respectively). Mortality was significantly less likely in subjects in the highest tertile of serum xanthophyll levels versus those in the lowest (HR 0.13; 95% CI 0.02, 0.77; P = 0.02). Conclusions: These results support our previous findings that consuming a diet rich in vegetables and fruits, particularly those high in xanthophylls and total carotenoids such as green leafy, yellow and orange, and orange fruits, may be associated with a better HNC prognosis.</p>	<p>Effects of Cancer History and Geriatric Assessment Domain Deficits on Mortality Blair CK, Jacobs DR, Robien K, Lazovich D</p> <p>Few prospective studies have examined geriatric assessment (GA) domains (characterization of functional/physiological capacity in older adults) and mortality in cancer survivors, and none included a comparison group. We examined the degree to which GA domain deficits predicted mortality among long-term (>5 years) cancer survivors compared to similar-aged women without cancer. Methods: Subjects included women enrolled in the Iowa Women's Health Study in 1986 who completed the 2004 questionnaire (at ages 73-88 years) and were alive the following year. GA domain deficits were defined as follows: ≥ 2 physical function limitations, ≥ 2 comorbidities, fair/poor general health, fair/poor memory, depression, and underweight. Hazard ratios (HR) and 95% confidence intervals (CI) were calculated for the association between deficits in each GA domain and all-cause mortality based on the cross-classification of cancer history (no/yes) and GA domain deficit (no/yes)(referent group=No/No). Each model was adjusted for age, smoking, physical activity, and the other 5 GA domains. Results: Analyses included 11,618 women without a cancer history, frequency matched by age, to 1,794 women diagnosed with cancer between 1986 and 1999. Both cancer history and GA domain deficit significantly predicted mortality for all GA domains; cancer survivors with deficits had the highest mortality risk for 4 of 6 domains. Compared to the referent group, HRs [95% CIs] for survivors without deficit, cancer-free women with deficit, and cancer survivors with deficit were 1.8 [1.6-2.1], 2.0 [1.8-2.2], 2.6 [2.2-3.0] for functional limitations; 1.7 [1.4-1.9], 1.6 [1.4-1.7], 2.0 [1.8-2.3] for comorbidities, 1.6 [1.4-1.8], 1.7 [1.5-1.8], 2.0 [1.7-2.4] for fair/poor general health; and 1.5 [1.3-1.7], 1.7 [1.5-1.8], 2.1 [1.7-2.6] for underweight. Mortality risk increased with increasing number of GA domain deficits, which was greater in cancer survivors than in cancer-free women (p- interaction=0.0003). Conclusion: Even without GA deficit, cancer survivors have excess risk of death compared to women without cancer; deficits add to mortality risk regardless of cancer history. Interventions are needed to maintain or improve functional/physiological capacity as women age, especially cancer survivors.</p>

97	98-T
<p>A Qualitative Examination of Patient Experiences and Preferences Regarding Surveillance Breast Imaging after Treatment for Breast Cancer</p> <p>Brandzel S, Rosenberg D, Bush M, Johnson</p> <p>We conducted a qualitative study to understand experiences with and preferences for surveillance breast imaging modalities among women with a recent history of breast cancer. Methods: We conducted six 2-hour focus groups with women ages 35-75 who had Stage 0-III breast cancer within the past 5 years (N=45). Participants were recruited from 3 Breast Cancer Surveillance Consortium imaging registries (New Hampshire, North Carolina, and San Francisco). The focus groups were all conducted by the same facilitator and attended by the principal investigator. Additionally, at least one of our project's patient partners attended to build trust between the scientific team and the participants. Using a semi-structured discussion guide, we explored the patterns of mammographic and MRI surveillance breast imaging, women's experiences with these modalities, women's imaging decision-making, the impact of imaging cost, and preferences about the perceived benefits and harms of these two imaging modalities. Transcripts of these discussions were coded using an inter-rater validated coding schema for this preliminary analysis and will be further evaluated using the qualitative analysis software Atlas.ti. Results: The majority of women were satisfied with the type and frequency of breast imaging they receive, though some wondered whether they should get more, less or a different type. Major themes suggested that some women want to be involved in decision-making about surveillance imaging, but others prefer to leave it to their providers. Reported barriers to discussing and/or obtaining breast imaging included intimidation, safety concerns, cost, consistency of clinical messaging and coordination of care. There was also a wide variety of preferences about the tradeoffs related to sensitivity and specificity of imaging modalities and how participants felt about recalls for potential subsequent breast cancers. Conclusion: Women with a recent history of breast cancer want more guidance about the type or frequency of breast imaging that they should have once they complete breast cancer treatment. They are eager to get more information about the clinical, emotional and financial costs and benefits of mammography versus mammography plus MRI.</p>	<p>Intra-Limb Coordination of Shoulder and Elbow Joints during Tai Chi Exercise: Implication for Breast Cancer Survivor Rehabilitation</p> <p>Liu W, Decoux BE</p> <p>To investigate intra-limb coordination of the shoulder and elbow joints during Tai Chi Chuan (TCC) compared to arm reaching to support the potentiality of TCC as a rehabilitation strategy for upper extremity (UE) dysfunction among breast cancer survivors. METHODS: Ten healthy subjects participated in this pilot study. Subjects performed trials of both arm reaching and TCC conditions. A seven camera VICON motion capture system (Oxford, UK) was used for joint kinematic measures. Two paired sample t-tests were employed to compare joint these measures. RESULTS: Our preliminary results demonstrated a significant difference in shoulder abduction range of motion during TCC (ranged from 60-80 degrees) compared to arm reaching (ranged from 10-20 degrees) ($p<.05$). TCC also showed a different shoulder-elbow coordination structure (shoulder abduction vs. elbow flexion) than arm reaching. CONCLUSIONS: TCC requires higher levels of coordination between the shoulder and elbow joints than arm reaching due to a significantly higher shoulder abduction range of motion. This could provide potential clinical benefits of shoulder function for breast cancer survivors because breast cancer survivors are often presented with muscular restrictions due to pain. Higher shoulder abduction with elbow flexion-extension could increase shoulder range of motion without increasing mechanical stress at shoulder joint. Our pilot results provide a biomechanical rationale for proposing TCC as a potential rehabilitation strategy for UE function in breast cancer survivors.</p>

99-T	100
<p>Symptom Burden and Health Related Quality of Life in Overweight/obese African-American Breast Cancer Survivors Fogel A, Arroyo C, Dakers LR, Strahan D</p> <p>To characterize the symptom experience of overweight/obese African American breast cancer survivors (AABCS) and examine how survivors' symptom experience relates to their health related quality of life (HRQOL). Methods. Study population included 201 overweight/obese AABCS participating in the Moving Forward study, a community based weight loss intervention. Eligibility criteria included: Stage I, II, III breast cancer, > 6-months post- treatment, BMI > 25 kg/m² and ability to participate in moderate physical activity. Symptom experience was measured with the Breast Cancer Prevention Trial Scale, a 17-item symptom checklist with six factors: vasomotor symptoms, bladder control, musculoskeletal pain, cognitive/mood symptoms, weight/appearance concerns, and arm problems. HRQOL was measured with the PROMIS Global 10, with Physical Health and Mental Health sub-scores. Data was collected as part of the baseline interview. Results. All women reported at least 1 symptom, and 88% reported at least 6, with a mean of 10 symptoms. Weight concerns were most frequently reported. Survivors were "moderately bothered" by these symptoms. Musculoskeletal concerns were also common, with women being "slightly" to "moderately bothered." Mean physical HRQOL was 44.7 (SE=.61) compared to 53.2 (SE=.07) for adults without cancer (n=22,370) and 52.7 (SE=0.51) for breast cancer survivors (n=356) from the 2010 National Health Interview Survey. Mean mental HRQOL was 47.2 (SE=.70) compared to 53.9 (SE=.07) for adults without cancer and 54.5 (SE=.52) for breast cancer survivors. Greater numbers of symptoms was moderately associated ($r=-.58$, $p<.01$) and greater mean symptom severity was strongly associated ($r= .65$, $p<.01$) with lower Global Physical Health. Musculoskeletal pain was strongly associated with worse physical HRQOL ($r=-.65$, $p<.0001$) and cognitive/mood symptoms were moderately associated with worse physical ($r= -.53$, $p<.0001$) and mental HRQOL ($r=-.59$, $p<.0001$). Discussion. Symptom rates in our sample of overweight/obese AABCS is higher than rates reported in other studies of breast cancer survivors. Many symptoms are related to women's weight and these concerns negatively impact their HRQOL. Results reflect AABCS unmet need for support around weight management.</p>	<p>Apolipoprotein B, Serum Cholesterol Levels And Self-Reported Memory Problems In Cancer Survivors Jean-Pierre P, Grandner M, Jean-Pierre A, Richards E, Maciorowski G</p> <p>The etiology of cancer and treatment-related neurocognitive dysfunction is generally attributed to various genetics, biological, and psychosocial factors. In the present study, we assessed the contribution of different clinical variables to the prediction of self-reported memory problems (SRMP) in middle-aged adult-onset cancer survivors. Dr. Pascal Jean-Pierre Methods: We analyzed data from 160 cancer survivors, 41-64 year-old, who completed the 2007-2008 National Health and Nutrition Examination Survey. Participants with a history of brain tumor/stroke were excluded since these conditions normally cause direct brain/cognitive impairments. Clinical variables assessed obesity (body mass index evaluated [1] continuously or [2] dichotomized at 30kg/m²), high cholesterol ([1] previous diagnosis and/or current treatment for high lipids, [2] serum cholesterol, assessed continuously, [3] HDL cholesterol levels, [4] LDL cholesterol levels, and [5] apolipoprotein B (APOB)), and inflammation ([1] log c-reactive protein). We completed population-weighted binomial logistic regression analyses, adjusting for age, sex, race/ethnicity, education and income to assess clinical correlates of memory problems. Results: Obesity (assessed continually or binomially), inflammation (C-reactive protein) and HDL cholesterol were not associated with SRMP ($p>0.05$). History of high cholesterol ($p<0.01$), serum cholesterol levels ($p<0.01$), LDL cholesterol ($p<0.01$), and apolipoprotein B (APOB) were all associated with SRMP. Conclusions: Interventions to mitigate SRMP burden need to systematically assess and control lipid intake and cholesterol levels for cancer patients and survivors.</p>

101	102-T
<p data-bbox="139 163 760 254">Human Immunodeficiency Virus Testing among Cancer Survivors under age 65 in the United States LI J, Thompson TD, Tai E, Zhao G, Oster AM</p> <p data-bbox="139 291 760 1354">Knowing the serostatus of human immunodeficiency virus (HIV) infection at the time of cancer diagnosis or cancer recurrence is prerequisite to coordinating HIV and cancer treatments and ultimately improving treatment outcomes. However, there are no published data about HIV testing among cancer survivors in the United States (US). This study aimed to provide the proportion estimates and characterize factors associated with HIV testing. Methods: Using data from the 2009 Behavioral Risk Factor Surveillance System, we calculated the proportion of HIV testing among cancer survivors under age 65 by demographic and health-related factors, and state. Adjusted proportion estimates were calculated by multivariable logistic regression. Results: Only 41% of cancer survivors under the age of 65 reported having ever had an HIV test in the US. The highest proportion tested was observed among patients aged 25- 34 years (72.2%), non-Hispanic blacks (59.5%), and cervical cancer survivors (51.2%). The proportion tested was highest in the District of Columbia (68.3%) and lowest in Nebraska (24.1%). Multivariable analysis showed that factors associated with HIV testing included being non-Hispanic black or Hispanic, younger, having higher education, not married or living with a partner, disabled, and having medical cost concerns. Having an AIDS-defining cancer was associated with HIV testing only among females. Conclusion: About 60% of US cancer survivors under age 65 have never had an HIV test. The proportions of HIV testing varied substantially by demographic and health-related factors and by state. Our study points to the need for public health interventions to promote HIV testing among cancer survivors.</p>	<p data-bbox="782 163 1403 317">Longitudinal Associations among Physical Activity and Dietary Habits in Endometrial Cancer Survivors in the Steps to Health Study Mama SK, Swartz MC, Cox M, Carmack C, Basen-Engquist K</p> <p data-bbox="782 323 1403 1682">Physical activity (PA) plays an important role in weight management and cancer survivorship and may indirectly influence other health behaviors, such as dietary intake. The purpose of this study was to explore the relationship between changes in PA and changes in dietary habits in endometrial cancer survivors who participated in an exercise intervention. Method: Secondary data analyses were conducted among post-treatment Stage I-IIIa endometrial cancer survivors (N=100) who participated in a 6-month home-based exercise intervention. Participants completed the CHAMPS Physical Activity Questionnaire and NIH Multifactor Screener at baseline and post-intervention. Multiple regression models were used to estimate the effect of PA on dietary habits post-intervention, adjusting for age, BMI and baseline dietary habits and bootstrapped using 2,000 resamples from the dataset. Results: Participants were in their late 50s (M=57.0, SD=11.0), obese (M=34.3 kg/m², SD=9.4) and mostly non- Hispanic white (75.0%). At baseline, women reported doing moderate-intensity PA being active 10.7 times/week (SD=7.7) and 43.7 min/day (SD=58.1), consumed 2.5 cups of fruit and vegetables (SD=0.9), 15.6 grams of fiber (SD=6.3) and 33.2% of their calories from fat (SD=4.4). Participants reported significant increases in caloric expenditure (Δ=543.12 calories/week, t=2.316, p=.023) and frequency (Δ=1.66 times/week, t=2.763, p=.007) per week doing moderate-intensity exercise-related activities. No significant changes in dietary habits were found. Post-intervention minutes of moderate-intensity PA was associated with post-intervention fat intake after controlling for baseline fat intake and age (B=1.778, SE=.718, p=.020, 95% CI: 0.340, 3.121). There were no other significant associations between changes in PA and changes in dietary habits. Conclusions: Increased PA was associated with increased fat intake post-intervention. Results suggest improvements in PA do not promote spontaneous healthful changes in dietary habits, and may result in compensatory increases in hedonic foods. Multiple behavior change interventions targeting PA and dietary habits are needed to promote weight management among endometrial cancer survivors.</p>

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<p>Comparative Effectiveness of Incorporating a Novel DCIS Prognostic Marker into Breast Cancer Screening Trentham-Dietz A, Ergun MA, Alagoz O, Stout NK, Gangnon RE, Dittus K, James TA, Vacek PM, Herschorn S, Weaver DL, Sprague BL</p> <p>Ductal carcinoma in situ (DCIS) of the breast is primarily detected by screening mammography. DCIS is a non-obligate precursor of invasive breast cancer, with only 30 to 50% of DCIS lesions estimated to progress. Due to limitations in our ability to identify non- progressive disease, DCIS is treated in a manner similar to invasive breast cancer even though relative survival after DCIS approaches 100%. We are using simulation modeling to evaluate the potential impact of a hypothetical test that could identify non-progressive DCIS. Methods. In our validated simulation model, about 40% of DCIS lesions do not progress to invasive cancer (set by calibration). A U.S. cohort is simulated of 2 million women born in 1970. The cohort undergoes digital screening mammography according to current U.S. practices, and is followed until death. We apply a hypothetical DCIS prognostic test for progression to all women diagnosed with DCIS. If the test indicates progressive DCIS, the woman receives 1) standard treatment, 2) a detriment to quality of life that corresponds to the DCIS treatment, and 3) a survival time. If the DCIS prognostic test indicates non- progressive DCIS, the woman forgoes treatment and avoids the resulting loss in quality of life. We assume a perfect DCIS prognostic test (100% sensitive and specific) and compare the associated quality-adjusted life years (QALYs) and costs to the current situation (“base case”) where a prognostic test is not available. Results. Compared to the base-case, using a perfect prognostic test results in <1% additional life-years, corresponding to 0.01 QALYs per women added to the base case of 53.89 QALYs per woman. Costs associated with treatment for DCIS decrease by 60% from \$807 to \$320 USD per woman when the diagnostic test is available. Additional modeling is planned to explore the impact of a less than perfect prognostic test as well as the sensitivity of the results to test costs, DCIS tumor growth characteristics, quality of life utilities, and screening utilization. Conclusion. Identification of DCIS is both a benefit and a harm of screening mammography. A prognostic test that could identify non-progressive DCIS would improve quality of life minimally but substantially reduce treatment costs.</p>	<p>Psychometric Properties of the Impact of Event Scale in Melanoma Survivors Tripp MK, Peterson SK, Prokhorov AV, Lee JE, Gershenwald JE, Gritz ER</p> <p>Despite widespread use of the Impact of Event Scale (IES), there has been relatively little study of its psychometric properties, particularly factor structure, with mixed findings. The purpose of this study is to examine the validity and reliability of the IES in melanoma survivors. Methods: Melanoma survivors (N = 205) with children \geq 12 years of age completed a telephone interview which included the IES and measures of perceived melanoma risk, melanoma worry and sun protection. Confirmatory factor analyses (CFA) of the IES were conducted to test and compare hypothesized measurement models derived from the theoretical and empirical literature to inform factorial validity. Pearson correlations were calculated between measures to assess convergent and discriminant validity. Internal consistency reliability of the IES was assessed. Results: Intrusion (Cronbach's alpha = 0.87) and Avoidance (alpha = 0.79) subscales of the IES were adequately reliable, but highly correlated suggesting construct overlap. As expected, Intrusion and Avoidance were significantly and positively associated with melanoma worry and sun protection, but not associated with perceived risk. Based on CFA, the best-fitting model was a bifactor model (chi-square test (df)=76.28 (37), p = .0002; CFI=.974; TLI=.989; RMSEA=.072; WRMR=.682). With the exception of one item, Intrusion and Avoidance factors did not contribute variance to items above and beyond that contributed by a general factor, suggesting the use of a total IES score. Conclusions: Adequate fit of a bifactor model suggests that the IES may be multidimensional. Items with moderate loadings on Intrusion and Avoidance provide a starting point for measure refinement. Findings have implications for the construct validity and scoring of the IES, interpretation of findings based on the IES and measure refinement. Furthermore, results add to the scant literature on the factor validity of the IES in cancer patients and survivors. Research is needed to replicate findings in diverse survivor samples.</p>

Satisfaction with a Quitline-based Smoking Cessation Intervention among Cancer Survivors

Weaver KE, Kaplan S, Griffin L, Urbanic J, Zibikowski S, Danhauer SC

Continued smoking after diagnosis jeopardizes cancer survivors' health and well-being. Quitline-based smoking cessation treatment is convenient, widely available and free, yet the appropriateness of this treatment approach for survivors is not known. We assessed satisfaction among participants in an enhanced quitline intervention as part of a randomized clinical trial assessing feasibility. Methods: We recruited cancer survivors through the NCI Community Clinical Oncology Program (CCOP) network within 6 months of treatment who smoked within the last 7 days and randomized them 2:1 to an enhanced quitline-based intervention (brief in-person motivational interviewing counseling session, quitline telephone counseling, 6 weeks of nicotine replacement patches) or usual care. We collected treatment satisfaction data and self-reported smoking status at 12 weeks and confirmed smoking status for reported non-smokers using a semi-quantitative urinary cotinine assessment. Results: We enrolled 146 survivors (75% female, 79% non-Hispanic white, mean age=58 years). At entry, survivors reported smoking an average of 15 cigarettes per day; 77% reported smoking within 30 minutes of awakening. Assessments were completed by 63% of the quitline group and 75% of the usual care group at 12 weeks ($p>.05$). 83% of participants in the intervention arm ($n=98$) completed at least one quitline call, and 18% completed ≥ 3 calls. Use of nicotine patches was 61% in the quitline group and 42% in usual care. Quitline participants were generally satisfied with both the in-person counseling (mean satisfaction score=4.2 (SD=1.0), on 1-5 scale) and the quitline telephone counseling (mean satisfaction score= 3.4 (SD=1.3)). 87% would recommend the quitline program to others. Self-reported 7-day point prevalence cessation was 26% in the quitline group and 17% in the usual care arm ($p=.33$). Conclusions: An enhanced quitline smoking cessation intervention appears to be acceptable to cancer survivors and to result in a trend towards slightly higher cessation at 12 weeks. Increased efforts to retain survivors in treatment and encourage the use of nicotine replacement may be necessary to increase the impact of this intervention approach.