

HPM/HBEH 765, EPID 772
Cancer Prevention and Control Seminar -- Fall 2016

Class Location: Rosenau 123

Meeting Times: Tuesdays/Thursdays: 3:30 – 4:45 PM

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Objectives

This course introduces participants to the science and practice of cancer prevention and control. The course emphasizes current controversies and events, with a focus on the interdisciplinary nature of the field. Because cancer prevention and control encompasses a multitude of topics, the course is not comprehensive. Instead, learning focuses on selected topics. You are, of course, free to read as widely on the topics assigned, or related others, as you wish, and to share whatever questions you may have, or knowledge you may glean, with the class during our discussions.

Assignments and Grading - Summary

Seminar: An advanced or graduate course often featuring informality and discussion. (Webster's New Collegiate Dictionary)

The class is a seminar. Most sessions will feature short student presentations and class discussions. Presentations will focus on the assigned readings. Discussion will build on the presentations and readings. In addition, several experts in cancer prevention and control will be guest speakers during the course.

Some class work is organized through groups. The number of groups and individual group assignments will be determined once we have a final class roster. We will aim for four equal-sized groups.

The course has three graded assignments.

1. Seminar Presentations and Participation (40%)

The purpose of the seminar presentations is to gain knowledge and to stimulate discussion of issues in cancer prevention and control. For most seminar sessions, selected readings are assigned to everyone to read and other articles are assigned to each group. A representative from each group will present and critique the group's assigned article. Over the course of the semester, students are expected to make an equal (or a nearly equal) number of seminar presentations. Students are also expected to contribute to each class discussion.

2. Debates (30%)

Each student will participate in a debate. Debate groups will be determined when we have a final class roster. The topic for each debate will be a current controversy in cancer prevention and control that the NC Advisory Committee on Cancer Coordination and Control must confront. Each group will constitute a team of experts representing the 'pro' or 'con' side of the issue. Each group will try to convince the Committee to adopt their position on the issue.

3. Priority Brief – Elevator Speech (30%)

Each student will prepare a written brief for state legislators that advocates a cancer prevention and control action that will lower North Carolina's cancer burden.

Details

Readings

Please read the readings marked “everyone,” and those assigned to your group for the day. We recommend you also look at the abstracts of papers assigned to other groups. In addition to journal articles and other short pieces, we will discuss Atul Gawande's recent book, *Being mortal: medicine and what matters in the end*, on Tuesday, November 29. This book has been assigned as UNC's 2016 summer reading and cost \$15.60 at Student Stores.

Seminar Presentations

We'll be using Michael O'Malley's Seminar Presentation Guidelines:

#1 Relax.

#2 Do the impossible. Briefly tell us what we should know about the article(s). You have **seven*** minutes to present. You don't have time to present every detail. Focus on the most important issues.

Here are key issues to consider:

Basic Facts

Who did the study, when, where? What kind of a study was it -- case/control, randomized controlled trial, etc? How big was it? Who paid for it?

Purpose

What is/are the main point(s) of the study? What is/are the main hypothesis or hypotheses?

Results

What are the most important findings?

Good, Bad, Ugly

What are the study's major strengths and weaknesses?

Punch Line

Given the above, what is the study's conclusion and do you buy it?

Why Should We Care?

What is the study's and or result's relevance for cancer prevention and control? Or, why did we have you read this?

What else?

Please conclude with a good discussion question.

Most but not all articles will lend themselves to the above outline. Some articles will more closely resemble review or data summary articles rather than analytic studies. Do the best you can.

And, whenever possible, resist the temptation to conclude with “more research is needed.” When that urge hits you, click the following link:

<http://www.theonion.com/article/new-study-shows-people-with-panic-disorders-respon-20892>

#3 Re read Rule #1.

Here is how the seminar sessions will generally work:

Each group will be assigned readings for which they are responsible. A representative from each group will take **seven*** minutes to present the main ideas and offer a brief review of the paper's/study's strength and weaknesses. Again, please conclude with a good discussion question.

Each group will decide who should make the presentation on a given date. Each member of the group should present about the same number of times during the semester. The math may not always work out so that everyone is equal, but it should be close.

It's up to each group to determine to what extent you will collaborate or work independently to prepare each presentation. Some groups, for example, might choose to meet outside of class time to prepare. Others might prefer just to share presentation notes with other group members a day or two before class for feedback. Your group will find the model that suits your styles and schedules.

You don't need props or power points for your presentations. If you use visuals, keep them simple. Limit them to handouts, please.

We need to be done with all four presentations in about half an hour. Following all the presentations, the class as a whole will discuss the general themes of the articles, and address questions, comments, etc.

To conclude each day's discussion, the class will collectively generate a succinct bullet point summary of the day's main points. The teaching team will edit and compile these summaries in a class document for you to have for the future.

Grading will be individually, not for the group as a whole. The grade will be based 80% on quality of content (how well you described and critiqued the article) and 20% on quality of presentation (clarity, organization, style).

Guest Speaker Days

The procedure on guest speaker days will vary to some extent from speaker to speaker. However, the basic idea is that speakers will present then answer questions or lead discussion, staying with the class for 40-50 minutes. Upon their departure, students will be asked to spend a few minutes writing a **SHORT** reflection statement (3 – 4 sentences). You will not turn this reflection in. It will be shared in class to spur further discussion.

Readings are assigned for most guest speaker days. In most cases, the assigned readings are for everyone to read, although on some occasions we have assigned different readings to each group. We will *not* have student presentations on guest speaker days, even when groups are assigned different readings.

In addition to the readings, please spend some time looking over our guests' bios in advance to learn about their work. (Links provided in reading list).

Debate Process

October 11th and 13th we will have debates. The NC Advisory Committee on Cancer Coordination and Control is meeting with us to consider adopting a policy position on two issues. (Well, not really. Students not participating in each debate will constitute the Committee).

In a semi-formal point/counterpoint discussion, the Committee has given each expert group 12 minutes to present a case using PowerPoint (or other visual aids) for or against the position. The first group to present will be decided by a random process (coin flip).

Following the initial presentations, each group will have three minutes to collect thoughts and then five minutes for rebuttal of the opposing viewpoint. Following the rebuttals, each group will have three minutes to collect thoughts and then present a two minute concluding summary.

Following the presentations, rebuttals, and summaries, the moderator will allow questions from the Committee. Questions will be directed to one group or the other; however, both groups will be allowed to respond.

Following the question and answer period, the Committee will vote whether to adopt the policy position.

We'll *really* have to stick precisely to the time guidelines.* Please come on time and be prepared to start right away at 3:30. Load any powerpoints you may be using before the class. Here are the guidelines in table format:

Steps in debate process	Time
Committee votes on issue. Tallies kept secret.	3
First debate group presents its case.	12
Second group presents opposing position.	12
Debators collect their thoughts.	3
Second group rebuttal	5
First group rebuttal	5
Debators collect their thoughts.	3
First group presents concluding summary.	2
Second group presents concluding summary.	2
Committee asks questions.	10
Committee votes.	3
Class compares, discusses pre/post debate tallies.	7

Total time 67 minutes

The debate outcome/vote is **not** related to students' grades!

Debate grades will be individual, and will be based upon quality/accuracy of the content provided, rhetorical quality of the position (logic, etc.), and quality of the presentation (clarity, appropriate slides, timing, etc.). In addition, the ability to think on one's feet, as demonstrated in rebuttal and summary, will also be considered. Preparation, including research into the opposing position, helps considerably.

Policy brief

Each student will prepare a written 500 word* brief for state legislators that advocates a cancer prevention and control action that will lower North Carolina's cancer burden. The chosen action will be a specific intervention or a policy (e.g., institute a free QuitLine) rather than a general concept (increase smoking cessation). The brief should identify the action, explain why it will lower cancer burden, and demonstrate that the proposed action will be effective.

Please let us know what policy or action you will be writing about by Thursday, **November 10**. Send this information to the TAs and Jo Anne via email. Briefs are due (submitted via Sakai) on Monday, **December 12, at noon**, though we would be delighted to receive them as early as December 8 or 9.

You should include references. They do not count against your word limit.

* * * * *

*The Power of Brevity

From the Presidential Sublime to the Ridiculous

**Lincoln's Gettysburg Address – Two Minutes, 278 Words
November 19, 1863**

Four score and seven years ago our fathers brought forth on this continent, a new nation, conceived in Liberty, and dedicated to the proposition that all men are created equal.

Now we are engaged in a great civil war, testing whether that nation, or any nation so conceived and so dedicated, can long endure. We are met on a great battle-field of that war. We have come to dedicate a portion of that field, as a final resting place for those who here gave their lives that that nation might live. It is altogether fitting and proper that we should do this.

But, in a larger sense, we can not dedicate -- we can not consecrate -- we can not hallow -- this ground. The brave men, living and dead, who struggled here, have consecrated it, far above our poor power to add or detract.

The world will little note, nor long remember what we say here, but it can never forget what they did here. It is for us the living, rather, to be dedicated here to the unfinished work which they who fought here have thus far so nobly advanced. It is rather for us to be here dedicated to the great task remaining before us -- that from these honored dead we take increased devotion to that cause for which they gave the last full measure of devotion -- that we here highly resolve that these dead shall not have died in vain -- that this nation, under God, shall have a new birth of freedom -- and that government of the people, by the people, for the people, shall not perish from the earth.

Supposed interchange between President Calvin “Silent Cal” Coolidge – a New Englander known for his brevity -- and his wife on the occasion of her missing a Sunday church service.

First Lady Coolidge: How was the sermon?”

President Coolidge: “Fine.”

First Lady Coolidge: “What did the minister talk about?”

President Coolidge: “Sin.”

First Lady Coolidge: “What did he say about it?”

President Coolidge: “He’s against it.”

HBEH 765 Seminar Reading List

The reading assignments are numbered 1-4 corresponding to each group number. The order in which the articles are listed is the preferred order of presentations. Readings have been posted to Sakai.

Class 1. Tuesday, 8/23. Introduction

No readings

Class 2. Thursday, 8/25. Cancer Prevention and Control Overview/Trends

Everyone

Progress in the War Against Cancer. *Am J Public Health Nations Health*. 1950 Oct;40(10):1313-1314.

1

Rahib L, Smith BD, Aizenberg R, Rosenzweig AB, Fleshman JM, Matrisian LM. Projecting cancer incidence and deaths to 2030: the unexpected burden of thyroid, liver, and pancreas cancers in the United States. *Cancer Res*. 2014 Jun 1;74(11):2913-21.

2

Colditz GA, Wolin KY, Gehlert S. Applying what we know to accelerate cancer prevention. *Sci Transl Med*. 2012 Mar 28;4(127):127rv4.

3

Mariotto AB, Yabroff KR, Shao Y, Feuer EJ, Brown ML. Projections of the cost of cancer care in the United States: 2010-2020. *J Natl Cancer Inst*. 2011 Jan 19;103(2):117-28.

4

Vineis P, Wild CP. Global cancer patterns: causes and prevention. *Lancet*. 2014 Feb 8;383(9916):549-57.

Class 3. Tuesday, 8/30. Cancer disparities: Black and White in the US

Everyone

Aizer AA, Wilhite TJ, Chen MH, Graham PL, Choueiri TK, Hoffman KE, Martin NE, Trinh QD, Hu JC, Nguyen PL. Lack of reduction in racial disparities in cancer-specific mortality over a 20-year period. *Cancer*. 2014 May 15;120(10):1532-9.

Jones CP. Levels of racism: a theoretic framework and a gardener's tale. *Am J Public Health*. 2000 Aug;90(8):1212.

Jones CP. Systems of power, axes of inequity: parallels, intersections, braiding the strands. *Medical Care*. 2014 Oct;52(10 Suppl 3):S71-5.

What, three “everyone” papers!? Well, the Jones papers are short. Besides, she’s president of the APHA and you should be familiar her work.

2

Silber JH, Rosenbaum PR, Clark AS, Giantonio BJ, Ross RN, Teng Y, Wang M, Niknam BA, Ludwig JM, Wang W, Even-Shoshan O, Fox KR. Characteristics associated with differences in survival among black and white women with breast cancer. *JAMA*. 2013 Jul 24;310(4):389-97.

If, like me, you are confused by their matching process, eAppendix part 6 may help. Thankfully, Tables 1 and 2 clarify their results/main points.

3

Cykert S, Dilworth-Anderson P, Monroe MH, Walker P, McGuire FR, Corbie-Smith G, Edwards LJ, Bunton AJ. Factors associated with decisions to undergo surgery among patients with newly diagnosed early-stage lung cancer. *JAMA*. 2010 Jun 16;303(23):2368-76.

4

Grubbs SS, Polite BN, Carney J, Bowser W, Rogers J, Katurakes N, Hess P, Paskett ED. Eliminating racial disparities in colorectal cancer in the real world: it took a village. *J Clin Oncol*. 2013 Jun 1;31(16):1928-30.

1

Ellis SD, Blackard B, Carpenter WR, Mishel M, Chen RC, Godley PA, Mohler JL, Bensen JT. Receipt of National Comprehensive Cancer Network guideline-concordant prostate cancer care among African American and Caucasian American men in North Carolina. *Cancer*. 2013 Jun 15;119(12):2282-90.

This editorial about the Ellis et al. paper could help you frame your presentation:

Master VA, Moses KA. Racial disparities in prostate cancer care: Is adherence to National Comprehensive Cancer Network guidelines good enough for our patients? *Cancer*. 2013 Jun 15;119(12):2209-11.

Class 4. Thursday, 9/1. Cancer disparities: Global snapshot

Everyone

U.S. Chamber of Commerce Works Globally to Fight Antismoking Measures. By Danny Hakim. *NY Times*. 6/30/2015.

http://www.nytimes.com/2015/07/01/business/international/us-chamber-works-globally-to-fight-antismoking-measures.html?hp&action=click&pgtype=Homepage&module=first-column-region®ion=top-news&WT.nav=top-news&_r=0

Big Tobacco's Staunch Friend in Washington: U.S. Chamber of Commerce. By Danny Hakim. NY Times 10/9/2015.

http://www.nytimes.com/2015/10/10/business/us-chamber-of-commerces-focus-on-advocacy-a-boon-to-tobacco.html?emc=edit_tnt_20151009&nid=68586528&tntemail0=y&r=2

Torre LA, Bray F, Siegel RL, Ferlay J, Lortet-Tieulent J, Jemal A. Global cancer statistics, 2012. *CA Cancer J Clin*. 2015 Mar 1;65(2):87-108.

OK just to skim. Focus on the big picture and the figures and tables, as opposed to methods.

3

de Souza JA, Hunt B, Asirwa FC, Adebamowo C, Lopes G. Global health equity: Cancer care outcome disparities in high-, middle-, and low-income countries. *J Clin Oncol*. 2016 Jan 1;34(1):6-13.

4

Rodriguez-Galindo C, Friedrich P, Alcasabas P, Antillon F, Banavali S, Castillo L, Israels T, Jeha S, Harif M, Sullivan MJ, Quah TC. Toward the cure of all children with cancer through collaborative efforts: pediatric oncology as a global challenge. *J Clin Oncol*. 2015 Sep 20;33(27):3065-73.

1

Bray F, Jemal A, Torre LA, Forman D, Vineis P. Long-term realism and cost-effectiveness: Primary prevention in combatting cancer and associated inequalities worldwide. *J Natl Cancer Instit*. 2015 Sep 30;107(12):djv273. *Length: 8 pages*

2

Jemal A, Bray F, Forman D, O'Brien M, Ferlay J, Center M, Parkin DM. Cancer burden in Africa and opportunities for prevention. *Cancer*. 2012 Sep 15;118(18):4372-84.

Class 5. Tuesday, 9/6. Early detection and screening, part 1

Everyone

Introduction chapter: Welch, H.G., 2004. *Should I be tested for cancer?: maybe not and here's why*. Univ of California Press.

UK National Screening Committee: Criteria for appraising the viability, effectiveness and appropriateness of a screening programme.

<https://www.gov.uk/government/publications/evidence-review-criteria-national-screening-programmes/criteria-for-appraising-the-viability-effectiveness-and-appropriateness-of-a-screening-programme>

4

Smith RA, Manassaram-Baptiste D, Brooks D, Doroshenk M, Fedewa S, Saslow D, Brawley OW, Wender R. Cancer screening in the United States, 2015: A review of current American Cancer Society guidelines and current issues in cancer screening. *CA Cancer J Clin*. 2015 Jan-Feb;65(1):30-54.

1

Harris RP, Sheridan SL, Lewis CL, Barclay C, Vu MB, Kistler CE, Golin CE, DeFrank JT, Brewer NT. The harms of screening: a proposed taxonomy and application to lung cancer screening. *JAMA Intern Med*. 2014 Feb 1;174(2):281-5

2

Wegwarth O, Schwartz LM, Woloshin S, Gaissmaier W, Gigerenzer G. Do physicians understand cancer screening statistics? A national survey of primary care physicians in the United States. *Ann Intern Med*. 2012 Mar 6;156(5):340-9.

3

Elstad EA, Sheridan SL, Lee JG, Rini C, Earp JA, Brewer NT. Have screening harms become newsworthy? News coverage of prostate and colorectal cancer screening since the 2008 USPSTF recommendation changes. *J Behav Med*. 2014 Dec;37(6):1242-51.

Class 6. Thursday, 9/8. Early detection and screening, part 2

Everyone

Knudsen AB, Zauber AG, Rutter CM, Naber SK, Doria-Rose VP, Pabiniak C, Johanson C, Fischer SE, Lansdorp-Vogelaar I, Kuntz KM. Estimation of benefits, burden, and harms of colorectal cancer screening strategies: Modeling study for the US Preventive Services Task Force. *JAMA*. 2016;315(23):2595-609.

1

Miller AB, Wall C, Baines CJ, Sun P, To T, Narod SA. Twenty five year follow-up for breast cancer incidence and mortality of the Canadian National Breast Screening Study: randomised screening trial. *BMJ*. 2014 Feb 11;348:g366.

“Annual mammography in women aged 40-59 does not reduce mortality from breast cancer beyond that of physical examination or usual care when adjuvant therapy for breast cancer is freely available.”

2

Weedon-Fekjær H, Romundstad PR, Vatten LJ. Modern mammography screening and breast cancer mortality: population study. *BMJ*. 2014 Jun 17;348:g3701. *Length: 8 pages*

“Invitation to modern mammography screening may reduce deaths from breast cancer by about 28%.”

3

Jacobs IJ, Menon U, Ryan A, Gentry-Maharaj A, Burnell M, Kalsi JK, et al. Ovarian cancer screening and mortality in the UK Collaborative Trial of Ovarian Cancer Screening (UKCTOCS): a randomised controlled trial. *Lancet*. 2016 Mar 11;387(10022):945-56.

4

The National Lung Screening Trial Research Team. Reduced lung-cancer mortality with low-dose computed tomographic screening. *NEJM*. 2011 Aug 4;365(5):395-409.

Class 7. Tuesday, 9/13. Lifestyle, physical activity, and diet

Everyone

Centers for Disease Control and Prevention (CDC). Adult participation in aerobic and muscle-strengthening physical activities--United States, 2011. *MMWR Morb Mortal Wkly Rep*. 2013 May 3;62(17):326-30.

Just skim, to get a sense of how much we're exercising.

Tomasetti C, Vogelstein B. Cancer etiology: variation in cancer risk among tissues can be explained by the number of stem cell divisions. *Science*. 2015 Jan 2;347(6217):78-81.

2

Song M, Giovannucci E. Preventable Incidence and Mortality of Carcinoma Associated With Lifestyle Factors Among White Adults in the United States. *JAMA Oncol*. 2016 May 19. *Length: 8 pages*

3

Moore SC, Lee IM, Weiderpass E, Campbell PT, Sampson JN, Kitahara CM, et al. Association of Leisure-Time Physical Activity With Risk of 26 Types of Cancer in 1.44 Million Adults. *JAMA Int Med*. 2016 Jun 1;176(6):816-25.

4

Matthews CE, Cohen SS, Fowke JH, Han X, Xiao Q, Buchowski MS, Hargreaves MK, Signorello LB, Blot WJ. Physical activity, sedentary behavior, and cause-specific mortality in black and white adults in the Southern Community Cohort Study. *Am J Epidemiol*. 2014 Aug 15;180(4):394-405.

1

Wang X, Ouyang Y, Liu J, Zhu M, Zhao G, Bao W, Hu FB. Fruit and vegetable consumption and mortality from all causes, cardiovascular disease, and cancer: systematic review and dose-response meta-analysis of prospective cohort studies. *BMJ*. 2014 Jul 29;349:g4490.

Class 8. Thursday, 9/15. Obesity and weight loss

Everyone

Calle EE, Rodriguez C, Walker-Thurmond K, Thun MJ. Overweight, obesity, and mortality from cancer in a prospectively studied cohort of US adults. *N Engl J Med*. 2003 Apr 24;348(17):1625-38.

Ligibel JA, Alfano CM, Courneya KS, Demark-Wahnefried W, Burger RA, Chlebowski RT, et al. American Society of Clinical Oncology position statement on obesity and cancer. *J Clin Oncol*. 2014 Nov 1;32(31):3568-74.

Skim this one if you wish

3

Birks S, Peeters A, Backholer K, O'Brien P, Brown W. A systematic review of the impact of weight loss on cancer incidence and mortality. *Obes Rev*. 2012 Oct 1;13(10):868-91.

4

Stevens VL, Jacobs EJ, Patel AV, Sun J, McCullough ML, Campbell PT, Gapstur SM. Weight cycling and cancer incidence in a large prospective US cohort. *Am J Epidemiol*. 2015 Sep 1;182(5):394-404.

1

Sjöström L, Gummesson A, Sjöström CD, Narbro K, Peltonen M, Wedel H, Bengtsson C, Bouchard C, Carlsson B, Dahlgren S, Jacobson P. Effects of bariatric surgery on cancer incidence in obese patients in Sweden (Swedish Obese Subjects Study): a prospective, controlled intervention trial. *Lancet Oncol*. 2009 Jul 31;10(7):653-62.

2

Reeves MM, Terranova CO, Eakin EG, Demark-Wahnefried W. Weight loss intervention trials in women with breast cancer: a systematic review. *Obes Rev*. 2014 Sep 1;15(9):749-68.

Class 9. Tuesday, 9/20. Guest: Lauren McCullough, Ph.D. (Physical activity and obesity)

Everyone

Dr. McCullough's faculty website at Emory:

<https://www.sph.emory.edu/faculty/profile/#!lmccull>

McCullough LE, Eng SM, Bradshaw PT, Cleveland RJ, Teitelbaum SL, Neugut AI, Gammon MD. Fat or fit: the joint effects of physical activity, weight gain, and body size on breast cancer risk. *Cancer*. 2012 Oct 1;118(19):4860-8.

McCullough LE, Chen J, White AJ, Xu X, Cho YH, Bradshaw PT, Eng SM, Teitelbaum SL, Terry MB, Garbowski G, Neugut AI, Hibshoosh H, Santella RM, Gammon MD. Gene-Specific Promoter Methylation Status in Hormone-Receptor-Positive Breast Cancer Associates with Postmenopausal Body Size and Recreational Physical Activity. *Int J Cancer Clin Res*. 2015;2(1). pii: 013.

Class 10. Thursday, 9/22. Alcohol

Everyone

Mart S, Giesbrecht N. Red flags on pinkwashed drinks: contradictions and dangers in marketing alcohol to prevent cancer. *Addiction*. 2015 Oct;110(10):1541-8.

4

Nelson DE, Jarman DW, Rehm J, Greenfield TK, Rey G, Kerr WC, Miller P, Shield KD, Ye Y, Naimi TS. Alcohol-attributable cancer deaths and years of potential life lost in the United States. *Am J Public Health*. 2013 Apr;103(4):641-8.

1

Bagnardi V, Rota M, Botteri E, Tramacere I, Islami F, Fedirko V, et al. Alcohol consumption and site-specific cancer risk: a comprehensive dose-response meta-analysis. *Br J Cancer*. 2015 Feb 3;112(3):580-93.

2

Shield KD, Soerjomataram I, Rehm J. Alcohol use and breast cancer: a critical review. *Alcohol Clin Exp Res*. 2016 Jun;40(6):1166-81.

3

Henley SJ, Kanny D, Roland KB, Grossman M, Peaker B, Liu Y, Gapstur SM, White MC, Plescia M. Alcohol control efforts in comprehensive cancer control plans and alcohol use among adults in the USA. *Alcohol Alcohol*. 2014 Nov;49(6):661-7.

Class 11. Tuesday, 9/27. UV exposure and melanoma

Everyone

Watch “Dear 16 year old me video”: <https://www.youtube.com/watch?v=4jgUcxMezM>

Watch “How the sun sees you”: <https://www.youtube.com/watch?v=o9BqrSAHbTc>

Watson M, Thomas CC, Massetti GM, et al. CDC Grand Rounds: Prevention and Control of Skin Cancer. *MMWR*. 2015;64(47):1312-4.

US Preventive Services Task Force. Screening for skin cancer: US Preventive Services Task force Recommendation Statement. *JAMA*. 2016;316(4):429-35.

The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of visual skin examination by a clinician to screen for skin cancer in adults (I statement).

1

Sunburn and sun protective behaviors among adults aged 18-29 years--United States, 2000-2010 *MMWR Morb Mortal Wkly Rep*. 2012 May 11;61(18):317-22.

2

Tripp MK, Watson M, Balk SJ. State of the science on prevention and screening to reduce melanoma incidence and mortality: The time is now. *CA Cancer J Clin*. 2016 May 27. doi: 10.3322/caac.21352. [Epub ahead of print].

3

Wehner MR Chren MM Nameth D, Choudhry A, Gaskins M, Nead KT, Boscardin WJ, Linos E. International prevalence of indoor tanning: a systematic review and meta-analysis. *JAMA Dermatol*. 2014;150(4):390-400.

4

Stapleton JL, Manne SL, Darabos K, Greene K, Ray AE, Turner AL, Coups EJ. Randomized controlled trial of a web-based indoor tanning intervention: Acceptability and preliminary outcomes. *Health Psychol*. 2015;34(S): 1278-85.

Class 12. Thursday, 9/29. Precision medicine

Everyone

Collins FS, Varmus H. A new initiative on precision medicine. *N Engl J Med*. 2015 Feb 26;372(9):793-5.

2

Your challenge is to describe precision medicine for us without getting bogged down in alphabet soup and biochemistry. Try to lay out for the class where precision fits in the cancer control continuum, and what categories of potential intervention points these authors are talking about. The Mendelsohn piece is a nice overview...but Sheri finds the final sentence amusing. Why, do you suppose?

Mendelsohn J. Personalizing oncology: perspectives and prospects. *J Clin Oncol*. 2013 May 20;31(15):1904-11.

Just FYI, about the painting referred to in the Mendelsohn article:

<http://www.gauguin.org/where-do-we-come-from-what-are-we.jsp>

3

Wait! Don't freak out at the long reading list. It's absolutely OK to read these selectively, skimming and even skipping sections, paying minimal attention to methods details and the pervasive genetic alphabet soup. The point is to share with the class specific examples of precision prevention, screening, and treatment. See suggestions for reading the Couch piece as a model of how to approach these articles. In your presentation, provide just basic info about the disease and targeted subgroup in each article, the promise and challenges you see in these examples of precision medicine, and consider public health and individual patient perspectives.

Couch FJ, Nathanson KL, Offit K. Two decades after BRCA: setting paradigms in personalized cancer care and prevention. *Science*. 2014 Mar 28;343(6178):1466-70.

Precision prevention and screening. Read Abstract and first section. Skim "Landscape of Mutations" subsection - to get a sense of range of disease risk (and uncertainty of disease risk) in BRCA mutation carriers. Read Clinical Management subsection, skipping its final paragraph.

Burn J, Gerdes AM, Macrae F, Mecklin JP, Moeslein G, Olschwang S, Eccles D, Evans DG, Maher ER, Bertario L, Bisgaard ML, et al. Long-term effect of aspirin on cancer risk in carriers of hereditary colorectal cancer: an analysis from the CAPP2 randomised controlled trial. *Lancet*. 2012 Jan 6;378(9809):2081-7.

Precision chemoprevention

Chapman PB, Hauschild A, Robert C, Haanen JB, Ascierto P, Larkin J, Dummer R, Garbe C, Testori A, Maio M, Hogg D. Improved survival with vemurafenib in melanoma with BRAF V600E mutation. *N Engl J Med*. 2011 Jun 30;364(26):2507-16.

Precision treatment. Focus on the intro, abstract, tables and figures. Skim the rest.

4

The NCI website details a trial referenced in the Rubin piece. In your presentation, describe this study design for us. The other two readings are both very short, and in your presentation you are asked to play devil's advocate for precision medicine.

Rubin R. Precision medicine: the future or simply politics?. *JAMA*. 2015 Mar 17;313(11):1089-91.

'Moonshot' medicine will let us down –M. Joyner, NYT opinion piece, 1/29/2015

http://www.nytimes.com/2015/01/29/opinion/moonshot-medicine-will-let-us-down.html?_r=0

mentioned in Rubin piece

NCI-Molecular Analysis for Therapy Choice (NCI-MATCH) Trial. NIH National Cancer Institute website. Updated 5/31/2016. Accessed 6/30/2016 from: <http://www.cancer.gov/about-cancer/treatment/clinical-trials/nci-supported/nci-match>

1

Onega T, Beaber EF, Sprague BL, Barlow WE, Haas JS, Tosteson AN, D Schnall M, Armstrong K, Schapira MM, Geller B, Weaver DL. Breast cancer screening in an era of personalized regimens: A conceptual model and National Cancer Institute initiative for risk-based and preference-based approaches at a population level. *Cancer*. 2014 Oct 1;120(19):2955-64.

Class 13. Tuesday, 10/4. Guest: Jim Evans (Genomics/Precision Medicine)

Dr. Evans has been invited to talk about precision prevention. While these readings –all short!- don't focus on precision prevention per se, they'll provide context for our conversation with him. They focus on his research interests in policy, healthcare providers, the public, and personal genetic information.

Everyone

Look over Dr. Evans's UNC faculty webpage:

<http://www.med.unc.edu/genetics/people/faculty/evans>

Biologist Teaches the Nation's Judges About Genetics –Claudia Dreifus. NY Times 7/1/2008
http://www.nytimes.com/2008/07/01/science/01conv.html?_r=0

Evans JP, Dale DC, Fomous C. Preparing for a consumer-driven genomic age. *N Engl J Med*. 2010 Sep 16;363(12):1099-103.

Abstracts only:

Ostergren JE, Gornick MC, Carere DA, Kalia SS, Uhlmann WR, Ruffin MT, Mountain JL, Green RC, Roberts JS, PGen Study Group. How well do customers of direct-to-consumer personal genomic testing services comprehend genetic test results? Findings from the impact of personal genomics study. *Public Health Genomics*. 2015 Jun 16;18(4):216-24.

Carere DA, Kraft P, Kaphingst KA, Roberts JS, Green RC, PGen Study Group. Consumers report lower confidence in their genetics knowledge following direct-to-consumer personal genomic testing. *Genet Med*. 2015 Mar 26;18(1):65-72.

Van der Wouden CH, Carere DA, Maitland-van der Zee AH, Ruffin IV MT, Roberts JS, Green, RC, 2016. Consumer perceptions of interactions with primary care providers after direct-to-consumer personal genomic testing. *Ann Intern Med*. 2016 Apr 19;164(8):513-22.

Class 14. Thursday, 10/6. Tobacco

Everyone

Singh T, Arrazola RA, Corey CG, et al. Tobacco Use Among Middle and High School Students — United States, 2011–2015. *MMRW*. 2016;65(14):361–367

3

Schane RE, Ling PM, Glantz SA. Health effects of light and intermittent smoking: a review. *Circulation*. 2010 Apr 6;121(13):1518-22.

4

Montazeri Z, Nyiraneza C, El-Katerji H, Little J. Waterpipe smoking and cancer: systematic review and meta-analysis. *Tob Control*. 2016 May 10. [Epub ahead of print]

1

Cantrell J, Pearson JL, Anesetti-Rothermel A, Xiao H, Kirchner TR, Vallone D. Tobacco Retail Outlet Density and Young Adult Tobacco Initiation. *Nicotine Tob Res*. 2016 Feb;18(2):130-7.

2

Oberg M, Jaakkola MS, Woodward A, et al. Worldwide burden of disease from exposure to second-hand smoke: a retrospective analysis of data from 192 countries. *Lancet*. 2011;377(9760):139-46.

Class 15. Tuesday, 10/11. Debate 1

Class 16. Thursday, 10/13. Debate 2

Class 17. Tuesday, 10/18. Guest: Dr. Ron Chen (Prostate Cancer)

There are no group presentations today. However, to jump-start our conversation with Dr. Chen, we assigned articles to be read by groups so that a few people in the class will have read about various dimensions influencing prostate cancer screening and treatment decision-making. Also, please be sure to read the abstracts of the articles you have not been assigned for today.

Everyone

Dr. Chen's faculty profile. <https://unclineberger.org/people/ronald-c.-chen>

Look over USPSTF screening guidelines

<http://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/prostate-cancer-screening>

Prostate Cancer Isn't Colorblind. Lannis Hall, Arnold D Bullock, Angela L. Brown. NY Times Op Ed. July 27, 2016. <http://www.nytimes.com/2016/07/27/opinion/prostate-cancer-isnt-colorblind.html>

1

Reeve BB, Stover AM, Jensen RE, Chen RC, Taylor KL, Clauser SB, Collins SP, Potosky AL. Impact of diagnosis and treatment of clinically localized prostate cancer on health-related quality of life for older Americans. *Cancer*. 2012 Nov 15;118(22):5679-87.

2

Song L, Chen RC, Bensen JT, Knafl GJ, Nielsen ME, Farnan L, Wallen EM, Mishel M, Pruthi RS, Mohler JL, Godley PA. Who makes the decision regarding the treatment of clinically localized prostate cancer—the patient or physician?. *Cancer*. 2013 Jan 15;119(2):421-8.

3

Andriole GL, Crawford ED, Grubb RL, Buys SS, Chia D, Church TR, et al. Prostate cancer screening in the randomized Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial: mortality results after 13 years of follow-up. *J Natl Cancer Inst*. 2012 Jan 18;104(2):125-32.

4

Chen RC, Rumble RB, Loblaw DA, Finelli A, Ehdaie B, Cooperberg MR, et al. Active surveillance for the management of localized prostate cancer (Cancer Care Ontario Guideline): American Society of Clinical Oncology clinical practice guideline endorsement. *J Clin Oncol*. 2016 Jun 20;34(18):2182-90.

Thursday, 10/20. Fall break

Class 18. Tuesday, 10/25. Infection: Focus on HPV

Everyone

Plummer M, de Martel C, Vignat J, Ferlay J, Bray F, Franceschi S. Global burden of cancers attributable to infections in 2012: a synthetic analysis. *Lancet Glob Health*. 2016 Sep;4(9):e609-16.

Gooi Z, Chan JY, Fakhry C. The epidemiology of the human papillomavirus related to oropharyngeal head and neck cancer. *Laryngoscope*. 2016 Apr;126(4):894-900.

4

Pimenta JM, Galindo C, Jenkins D, Taylor SM. Estimate of the global burden of cervical adenocarcinoma and potential impact of prophylactic human papillomavirus vaccination. *BMC Cancer*. 2013 Nov 21;13:553.

1

Moss JL, Gilkey MB, Reiter PL, Brewer NT. Trends in HPV vaccine initiation among adolescent females in North Carolina, 2008-2010. *Cancer Epidemiol Biomarkers Prev.* 2012 Nov;21(11):1913-22.

2

Gilkey MB, Malo TL, Shah PD, Hall ME, Brewer NT. Quality of physician communication about human papillomavirus vaccine: findings from a national survey. *Cancer Epidemiol Biomarkers Prev.* 2015 Nov 1;24(11):1673-9.

3

Brewer NT, Hall ME, Malo TL, Gilkey MB, Quinn B, Lathren C. HPV vaccine recommendation training: A randomized clinical trial. (under review)

Class 19. Thursday, 10/27. Environment

Everyone:

Peterson E, Aker A, Kim J, et al. Lung cancer risk from radon in Ontario, Canada: how many lung cancers can we prevent? *Cancer Causes & Control.* 2013;24(11):2013-20.

Wu S, Powers S, Zhu W, Hannun YA. Substantial contribution of extrinsic risk factors to cancer development. *Nature.* 2016 Jan 7;529(7584):43-7.

Abstract only

1

Kassotis CD, Tillitt DE, Davis JW, Hormann AM, Nagel SC. Estrogen and androgen receptor activities of hydraulic fracturing chemicals and surface and ground water in a drilling-dense region. *Endocrinology.* 2014 Mar;155(3):897-907.

2

Hosgoodiii HD, Chapman RS, He X, Hu W, Tian L, Liu LZ, Lai H, Chen W, Rothman N, Lan Q. History of lung disease and risk of lung cancer in a population with high household fuel combustion exposures in rural China. *Lung Cancer.* 2013 Sep;81(3):343-6.

3

Frei P, Poulsen AH, Johansen C, Olsen JH, Steding-Jessen M, Schüz J. Use of mobile phones and risk of brain tumours: update of Danish cohort study. *BMJ.* 2011 Oct 19;343:d6387.

4

Hendryx M, Wolfe L, Luo J, Webb B. Self-reported cancer rates in two rural areas of West Virginia with and without mountaintop coal mining. *J Community Health*. 2012 Apr;37(2):320-7.

Class 20. Tuesday, 11/1. Guest: Dr. Deborah Mayer (Survivorship)

Everyone

Dr. Mayer's faculty profile: <https://unclineberger.org/people/deborah-mayer>

Mayer DK, Nasso SF, Earp JA. Cancer Survivors' Needs and Perspectives on Survivorship Health Care in the United States. *Lancet Oncol*. 2016. In press.

De Moor JS, Mariotto AB, Parry C, Alfano CM, Padgett L, Kent EE, Forsythe L, Scoppa S, Hachey M, Rowland JH. Cancer survivors in the United States: prevalence across the survivorship trajectory and implications for care. *Cancer Epidemiol Biomarkers Prev*. 2013 Apr 1;22(4):561-70.

Mouw, MS, Wertman, EA, Barrington C, Earp JAL. *J Adolesc Young Adult Oncol*. Care Transitions in Childhood Cancer Survivorship: Providers' Perspectives. 2016 Aug 3. [Epub ahead of print]. *Length: 9 pages*

Class 21. Thursday, 11/3. Guests: Drs. Stephanie Wheeler and Katie Reeder-Hayes (Breast Cancer Screening and Treatment)

Everyone

Wheeler SB, Reeder-Hayes KE, Carey LA. Disparities in breast cancer treatment and outcomes: biological, social, and health system determinants and opportunities for research. *Oncologist*. 2013 Sep 1;18(9):986-93.

Roberts MC, Wheeler SB, Reeder-Hayes K. Racial/ethnic and socioeconomic disparities in endocrine therapy adherence in breast cancer: a systematic review. *Am J Public Health*. 2015 Jul;105 Suppl 3:e4-e15.

Class 22. Tuesday, 11/8. Chemoprevention of breast and colon cancers

Everyone

Look over: USPSTF. Breast Cancer: Medications for risk reduction. September, 2013. <http://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/breast-cancer-medications-for-risk-reduction>

Look over: USPSTF. Final Recommendation Statement. Aspirin Use to Prevent Cardiovascular Disease and Colorectal Cancer: Preventive Medication. April, 2016.

<http://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/aspirin-to-prevent-cardiovascular-disease-and-cancer>

2

Freedman AN, Yu B, Gail MH, Costantino JP, Graubard BI, Vogel VG, Anderson GL, McCaskill-Stevens W. Benefit/risk assessment for breast cancer chemoprevention with raloxifene or tamoxifen for women age 50 years or older. *J Clin Oncol*. 2011 Jun 10;29(17):2327-33.

3

Wheeler SB, Roberts MC, Bloom D, Reeder-Hayes KE, Espada M, Peppercorn J, Golin CE, Earp JA. Oncologic Providers' Perspectives on Endocrine Therapy Prescribing and Management. *Patient Prefer Adherence*. 2016. In press.

4

Cuzick J, Sestak I, Forbes JF, Dowsett M, Knox J, Cawthorn S, Saunders C, Roche N, Mansel RE, von Minckwitz G, Bonanni B, Palva T, Howell A; IBIS-II investigators. Anastrozole for prevention of breast cancer in high-risk postmenopausal women (IBIS-II): an international, double-blind, randomized placebo-controlled trial. *Lancet*. 2014 Mar 22;383(9922):1041-8.

1

Friis S, Riis AH, Erichsen R, Baron JA, Sørensen HT. Low-dose aspirin or nonsteroidal anti-inflammatory drug use and colorectal cancer risk: a population-based, case-control study. *Ann Intern Med*. 2015 Sep 1;163(5):347-55.

23. Thursday, 11/10. Tobacco control interventions

Everyone

Husten CG, Deyton LR. Understanding the Tobacco Control Act: efforts by the US Food and Drug Administration to make tobacco-related morbidity and mortality part of the USA's past, not its future. *Lancet*. 2013;381(9877):1570-80.

Song AV, Dutra L, Neilands TB, Glantz SA. Association of smoke-free laws with lower percentages of new and current smokers among adolescents and young adults. *JAMA Peds*. 2015;169(9):e152285.

3

Donny EC, Denlinger RL, Tidey JW, et al. Randomized Trial of Reduced-Nicotine Standards for Cigarettes. *N Engl J Med*. 2015 Oct; 373(14): 1340–1349.

4

Wakefield M, Coomber K, Zacher M. et al. Australian adult smokers' responses to plain packaging with larger graphic health warnings 1 year after implementation: results from a national cross-sectional tracking survey. *Tob Control*. 2015 Apr; 24(Suppl 2): ii17–ii25.

1

Golden SD, Smith MH, Feighery EC, Roeseler A, Rogers T, Ribisl KM. Beyond excise taxes: a systematic review of literature on non-tax policy approaches to raising tobacco product prices. *Tobacco control*. *Tob Control*. 2016 Jul;25(4):377-85.

2

Neff LJ, Patel D, Davis K, Ridgeway W, Shafer P, Cox S. Evaluation of the National Tips From Former Smokers Campaign: the 2014 Longitudinal Cohort. *Prev Chronic Dis*. 2016 Mar 24;13:E42.

Class 24. Tuesday, 11/15. More policy interventions 2

Everyone

Golden SD, McLeroy KR, Green LW, Earp JA, Lieberman LD. Upending the social ecological model to guide health promotion efforts toward policy and environmental change. *Health Educ Behav*. 2015 Apr 1;42(1 suppl):8S-14S.

4

Jena AB, Huang J, Fireman B, Fung V, Gazelle S, Landrum MB, Chernew M, Newhouse JP, Hsu J. Screening Mammography for Free: Impact of Eliminating Cost Sharing on Cancer Screening Rates. *Health Serv Res*. 2016 Mar 17. [Epub ahead of print]. *Length: 16 pages*

1

Roberto CA, Pomeranz JL. Public Health and Legal Arguments in Favor of a Policy to Cap the Portion Sizes of Sugar-Sweetened Beverages. *AJPH*. 2015 Nov;105(11):2183-90.

2

Choi, SK, Adams SA, Eberth JM, Brandt HM, Friedman DB, Tucker-Seeley RD, Yip MP, Hebert JR. Medicaid Coverage Expansion and Implications for Cancer Disparities. *AJPH*. 2015 Nov;105 Suppl 5:S706-12.

3

Colgrove J, Abiola S, Mello MM. HPV vaccination mandates—lawmaking amid political and scientific controversy. *NEJM*. 2010 Aug 19;363(8):785-91.

Class 25. Thursday, 11/17. Cancer Moonshot

These readings are for everyone. (They are short). There are no group presentations today. Each group, please email 2 discussion questions to the TAs by Wednesday, 11/16, at 6pm.

Watch: The War on Cancer: From Nixon Until Now | Retro Report | The New York Times. Nov. 24, 2103. <https://www.youtube.com/watch?v=2HhnrPmqhfg>

Breivik J. We won't cure cancer. NY Times. May 27, 2016.
http://www.nytimes.com/2016/05/27/opinion/obamas-pointless-cancer-moonshot.html?_r=0

Lowry DR, Collins FS. Aiming High – Changing the trajectory for cancer. *NEJM* 2016;374:1901-4.

Gopal S. Moonshot to Malawi. *NEJM*. 2016; 374:1604-5.

Horwitz RI. Equity in cancer care and outcomes of treatment: A different type of cancer moonshot. *JAMA*. 2016;315(12):1231-2.

Neugut A, Gross C. Targeting the cancer moonshot. *JAMA Oncol*. 2016;2:421-2.

Blum A. Cancer Moonshot? We've already landed. Al.com op-ed.
http://www.al.com/opinion/index.ssf/2016/08/cancer_moonshot_weve_already_l.html#incart_river_index.

Class 26. Tuesday, 11/22. Guest: Dr. Barbara Rimer (Presidents Cancer Panel) – readings TBA

-Thursday, 11/24. Thanksgiving-

Everyone

Messerli FH. Chocolate consumption, cognitive function, and Nobel laureates. *N Engl J Med*. 2012 Oct 18;367(16):1562-4.

Recommended

Class 27. Tuesday, 11/29. Book Discussion

Each group, please email two good discussion questions to the TAs by Monday at 6 pm.

Gawande, A. (2014). *Being mortal: medicine and what matters in the end*. Macmillan.

Class 28. Thursday, 12/1. Guest: Dr. Robert Croyle (NCI Perspective on Cancer Prevention and Control)

Everyone

NCI Division of Cancer Control and Population Sciences. Meet the Director website:

http://cancercontrol.cancer.gov/od/director_rc.html

Class 29. Tuesday, 12/6. LDOC: Last thoughts

Everyone

Masters GA, Krilov L, Bailey HH, Brose MS, Burstein H, Diller LR, Dizon DS, Fine HA, Kalemkerian GP, Moasser M, Neuss MN, et al. Clinical cancer advances 2015: Annual report on progress against cancer from the American Society of Clinical Oncology. *J Clin Oncol*. 2015 Mar 1;33(7):786-809.

Skim!

1

Bray F, Jemal A, Torre LA, Forman D, Vineis P. Long-term realism and cost-effectiveness: Primary prevention in combatting cancer and associated inequalities worldwide. *J Natl Cancer Inst*. 2015 Dec 1;107(12):djv273.

2

Zafar SY. Financial toxicity of cancer care: it's time to intervene. *J Natl Cancer Inst*. 2016 May 1;108(5):djv370.

3

Philipson T, Eber M, Lakdawalla DN, Corral M, Conti R, Goldman DP. 2012. An analysis of whether higher health care spending in the United States versus Europe is 'worth it' in the case of cancer. *Health Aff (Millwood)*. 2012 Apr;31(4):667-75.

4

Goldman DP, Philipson T. Five myths about cancer care in America. *Health Aff (Millwood)*. 2014 Oct;33(10):1801-4.