Cancer Screening 2017
New Recommendations, New Controversies

Judith M.E. Walsh, MD, MPH
Division of General Internal Medicine
Women’s Health Center of Excellence
University of California, San Francisco

Disclosures

• I have no conflicts of interest

Selected Controversies

• Breast Cancer Screening
  – Guideline confusion
  – Implications of "dense breasts"
  – New screening technologies

• Colorectal Cancer
  – What test and how often?
  – New options?

Selected Controversies

• Lung Cancer
  – Why not Chest X Ray?
  – Who should we screen?

• Prostate Cancer
  – The ongoing question- should we screen?
Principles of screening

- Detection while patient is asymptomatic
  - High sensitivity
- Early detection reduces the risk of death from the cancer – randomized trials
- The number of false positives is acceptably low
  - High specificity
  - Reasonably high prevalence of disease
- Ideally few harms

USPSTF

- Rigorous review of existing peer-reviewed evidence
- Ratings reflect the strength of the evidence on the benefits and harms of a preventive service
- No consideration of costs
- ACA: Must cover A or B ratings

USPSTF Grades

<table>
<thead>
<tr>
<th>Grade</th>
<th>Evidence</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>High certainty of substantial net benefit</td>
<td>Provide</td>
</tr>
<tr>
<td>B</td>
<td>High certainty of moderate net benefit Moderate certainty of moderate/substantial net benefit</td>
<td>Provide</td>
</tr>
<tr>
<td>C</td>
<td>Moderate certainty that net benefit is small</td>
<td>Selectively offer/provide</td>
</tr>
<tr>
<td>D</td>
<td>No net benefit or harms outweigh benefits</td>
<td>Do not provide</td>
</tr>
<tr>
<td>I</td>
<td>Insufficient evidence regarding balance of benefits and harms</td>
<td></td>
</tr>
</tbody>
</table>

Breast Cancer Screening

- Breast cancer is the most common cancer in women and the second leading cause of cancer death
- Screening mammography reduces breast cancer mortality
- Risk increases with age
- Pre-menopausal breast tissue is dense
  - Decreased sensitivity
Breast Cancer Screening

• Maggie Graham is a 50 year old woman with no family history of breast cancer. She has been reading news articles about the “increased accuracy” of screening ultrasound or MRI in women with dense breasts.

• You perform a clinical breast examination, which is normal.

What do you recommend to Maggie?

– Add ultrasound
– Add breast MRI
– Mammogram alone
– Add ultrasound and MRI

U.S. screening guidelines: no agreement

<table>
<thead>
<tr>
<th>Organization</th>
<th>Starting age</th>
<th>Stopping age</th>
<th>Frequency</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States Preventive Services Task Force (USPSTF)</td>
<td>50</td>
<td>74</td>
<td>Biennially</td>
<td>Screening for age 40-49 = Grade C recommendation. Continue screening as long as good health, life expectancy &gt; 10 years.</td>
</tr>
<tr>
<td>American Cancer Society (ACS)</td>
<td>45</td>
<td></td>
<td>As appropriate based on life expectancy, then biennially once age ≥55</td>
<td></td>
</tr>
<tr>
<td>American College of Obstetricians and Gynecologists (ACOG)</td>
<td>40</td>
<td></td>
<td>Annually</td>
<td>Consider cessation of screening at age 75.</td>
</tr>
</tbody>
</table>

USPSTF vs American Cancer Society Recommendations

<table>
<thead>
<tr>
<th>Age</th>
<th>USPSTF 2015</th>
<th>ACS 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>40-44</td>
<td>None (or biennial)</td>
<td>None</td>
</tr>
<tr>
<td>45-49</td>
<td>None (or biennial)</td>
<td>Annual</td>
</tr>
<tr>
<td>50-54</td>
<td>Biennial</td>
<td>Annual</td>
</tr>
<tr>
<td>55-74</td>
<td>Biennial</td>
<td>Biennial</td>
</tr>
<tr>
<td>75+</td>
<td>Insufficient evidence for or against</td>
<td>Biennial if good health and life expectancy ≥10 yrs</td>
</tr>
</tbody>
</table>

American Cancer Society Guidelines. JAMA 2015;314(15):1599-1614
Harms Of Screening

- Over-diagnosis
  - Cancers diagnosed that never would cause symptoms: patients receive all the costs and harms of treatment
  - Estimates: 10% to 30% of invasive breast cancers plus much of DCIS
- False positives
  - Anxiety
  - Additional tests including biopsies
- Radiation exposure
  - One breast cancer for 3000 women screened annually for 10 years

Jorgensen BMJ, 2009

Impact of mammographic screening in U.S.

Welch NEJM 2013

Screening has also led to large increase in detection of ductal carcinoma in situ (DCIS)

Breast Cancer Deaths
Randomized Trials, all ages

<table>
<thead>
<tr>
<th>Age, years</th>
<th>Deaths Averted Screening 1,000 Women Over 10 Years</th>
<th>95% confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 to 49</td>
<td>0.3</td>
<td>0 to 0.9</td>
</tr>
<tr>
<td>50 to 59</td>
<td>0.8</td>
<td>0.2 to 1.7</td>
</tr>
<tr>
<td>60 to 69</td>
<td>2.1</td>
<td>1.1 to 3.2</td>
</tr>
<tr>
<td>70 to 74</td>
<td>1.3</td>
<td>0 to 3.2</td>
</tr>
<tr>
<td>75+</td>
<td>Unknown</td>
<td>--</td>
</tr>
<tr>
<td>50 to 69</td>
<td>1.3</td>
<td>0.6 to 0.2</td>
</tr>
</tbody>
</table>

Bottom line: Greatest screening benefit in women aged 60-69; smaller, and possibly no, screening benefit in women aged 40-49.
False-Positive Results and Breast Biopsies per 1000 women

Harms of One-Time Mammography Screening, by age

<table>
<thead>
<tr>
<th>Outcome</th>
<th>40-49</th>
<th>50-59</th>
<th>60-69</th>
<th>70-74</th>
</tr>
</thead>
<tbody>
<tr>
<td>False-positive mammogram</td>
<td>121</td>
<td>93</td>
<td>81</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>(12%)</td>
<td>(9%)</td>
<td>(8%)</td>
<td>(7%)</td>
</tr>
<tr>
<td>Breast biopsies recommended</td>
<td>16</td>
<td>16</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>(1.6%)</td>
<td>(1.6%)</td>
<td>(1.7%)</td>
<td>(1.8%)</td>
</tr>
<tr>
<td>Biopsies per cancer diagnosed</td>
<td>10</td>
<td>6</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Estimated annual mammography screening costs in the US

Screening the 40 million women in the US aged 50-74 costs $4.72 billion per year

Screening the 22 million women in the US aged 40-49 costs an additional $1.32 billion per year


State breast density legislation

- Requires notification of women with heterogeneously dense or extremely dense breasts
- Exact wording specified by law: decreased sensitivity and increased risk for BC
- No mandate for insurance coverage of supplemental screening in most states

New Breast Technologies

- Digital Mammography
- Digital Breast Tomosynthesis
- Breast MRI
- Breast Ultrasound
Digital mammography

- Higher sensitivity, same specificity in women < 50 years old, dense breasts
  - Sensitivity 78% versus 51% film
  - Specificity 90%
- Worse in women 65 and older
  - Sensitivity 53% versus 69% film

Digital Breast Tomosynthesis

- Digital Breast Tomosynthesis (DBT) as a primary screening strategy

USPSTF: DBT

- Digital Breast Tomosynthesis (DBT) as a primary screening strategy
  - Benefit: Reduces recall rate and increases cancer detection rates compared to conventional mammography
  - Harm: twice as much radiation; unknown rate of overdiagnosis. May increase biopsy rates
- No evidence on mortality, morbidity, or QOL
- "Insufficient evidence to fully assess benefits and harms"

MRI Screening

- Does MRI have a role for screening in high risk women?
  - MRI is a very sensitive method of breast imaging and has been used as a diagnostic tool in women with breast cancer
  - Not influenced by breast density
  - Specificity is variable
  - Expensive
Sensitivity And Specificity Of Breast Cancer Screening Tests

<table>
<thead>
<tr>
<th>Test</th>
<th>Sensitivity</th>
<th>Specificity</th>
</tr>
</thead>
<tbody>
<tr>
<td>MRI</td>
<td>77%</td>
<td>95%</td>
</tr>
<tr>
<td>Mammography</td>
<td>36%</td>
<td>99.8%</td>
</tr>
<tr>
<td>Ultrasound</td>
<td>33%</td>
<td>96%</td>
</tr>
</tbody>
</table>

Supplemental screening: better outcomes?

<table>
<thead>
<tr>
<th></th>
<th>MRI</th>
<th>Ultrasound (US)</th>
<th>Tomosynthesis (DBT)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advantages</strong></td>
<td>Most sensitive</td>
<td>Well-tolerated</td>
<td>Similar cancer</td>
</tr>
<tr>
<td></td>
<td>No radiation</td>
<td>Relatively</td>
<td>detection rate,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>inexpensive</td>
<td>fewer false</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>positives</td>
</tr>
<tr>
<td><strong>Limitations</strong></td>
<td>High false positive rate</td>
<td>High false</td>
<td>Not as sensitive</td>
</tr>
<tr>
<td></td>
<td>Overdiagnosis</td>
<td>positive rate</td>
<td>as MRI</td>
</tr>
<tr>
<td></td>
<td>IV contrast</td>
<td>(low PPV)</td>
<td>Limited evidence</td>
</tr>
<tr>
<td></td>
<td>Claustrophobia</td>
<td>Operator-</td>
<td>base (newer)</td>
</tr>
<tr>
<td></td>
<td>Expensive</td>
<td>dependent</td>
<td>Limited availability</td>
</tr>
</tbody>
</table>

Impact For Clinical Practice

- MRI may be useful in screening high risk women
- The effect of MRI screening on mortality is not known
- MRI is not currently recommended for screening average risk women
- Ultrasound adds little to mammography
- Tomosynthesis is promising

Bottom Line: Breast Cancer

- 40-49 informed consent
  - Digital if decide to screen: now standard
- 50-74 screen every 2 years
- 75+ informed consent - don’t if life expectancy less than 10 years
- Don’t promote SBE, promote breast awareness
- BRCA risk equivalent: MRI
Lung Cancer Screening

Question?

- Mr. Nico Teen is a 69 year old man with a 50 pack-year history of smoking and COPD. You have previously been unsuccessful in encouraging him to quit smoking. He comes in for a check-up, is worried about developing lung cancer and wants to know what test you think he should have. What do you recommend?
  - Chest X ray
  - Sputum cytology
  - LDCT
  - None of these tests

Lung Cancer Screening:
Systematic Review of Chest X-rays

- 7 trials of lung cancer screening
- Frequent screening with chest x-rays was associated with an increase in mortality
  - RR 1.11 (95% CI 1.00-1.23)
- No difference in chest X-ray plus cytology versus chest X-ray alone

Manser, Thorax. 2003

PLCO: Lung Cancer Screening

- PCLO randomly assigned 154,901 adults aged 55 through 74 to annual CXR for 4 years vs. usual care
- Followed for 13 years
- Cumulative lung cancer mortality
  - 14.0/10,000 py screening group vs. 14.2/10,000 py control group
  - Rate ratio: 0.99 (95% CI 0.87-1.22)

Ockan MM. JAMA. 2011;306:1865
Low Dose Spiral Computed Tomography

- Scans lung in < 20 seconds (single breath)
- No IV contrast
- More radiation exposure than CXR but less than conventional CT
- Can detect much smaller lesions than chest X-ray

The National Lung Screening Trial (NLST)

53,454 participants randomized to CT or CXR
- Current or former heavy smokers: ≥ 30 pack-years
- Ages 55 to 74
- Annual CT scans x 3 years. 6.5 years follow-up

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Low-dose CT</th>
<th>Chest X-ray</th>
<th>RR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung cancer death</td>
<td>0.80 (0.73–0.89)</td>
<td>1.00</td>
<td>0.80 (0.73–0.93)</td>
</tr>
<tr>
<td>Any death</td>
<td>0.93 (0.86–0.98)</td>
<td>1.00</td>
<td>0.93 (0.86–0.98)</td>
</tr>
</tbody>
</table>

20% reduction in lung cancer death; 7% all deaths!

Number needed to invite to screen

- NNI to prevent one lung cancer death in 6.5 years = 320
- NNI to prevent one death from any cause in 6.5 years = 218

Summary from NLST
NLST Harms

- False positives
  - At least 1 positive test in 39% CT
- Possible over diagnosis
  - Higher cancer incidence with CT
    - 1060 vs. 941 cancers
    - Rate ratio 1.13 (95% CI 1.03–1.23)
- Radiation exposure
- Incidental findings

Guidelines and recommendations

- Recommend for those meeting NLST entry criteria at specialized centers
  - ACCP / ASCP / ATS
  - ACS
  - ALA
  - NCCN
  - AATS

The NLST Setting

- 76% of sites were NCI designated cancer centers
- 82% were large academic medical centers
- All likely to have specialized thoracic radiologists and board certified thoracic surgeons on site
- CT scanners extensive quality control
- Nodule management algorithm but not mandated
USPSTF Recommendation

- USPSTF recommends annual screening for lung cancer with low-dose computed tomography (LDCT) in persons at high risk for lung cancer based on age and smoking history
  - Grade B recommendation
  - Published December 31, 2013

USPSTF

- Age
  - 55-79
- Total exposure to tobacco smoke
  - 30 pack years or more
- Years since quitting
  - Those who have smoked within the past 15 years are at highest risk
- Consider other comorbidities

Medicare Coverage Decision

- Annual lung cancer screening with LDCT for age 55-77, asymptomatic, at least 30 pack year history and currently smoking or quit within past 15 years
- Written order for lung cancer screening written during lung cancer screening shared decision making visit furnished by physician or certified non-physician practitioner
  - February, 2013

Primary Prevention Of Lung Cancer

- Smoking cessation
- Smoking cessation
- Smoking cessation
- Smoking cessation
- Smoking cessation
- Smoking cessation
- Smoking cessation!!!!!
Implications

- Smoking cessation
- Strict adherence to guidelines
  - 55-79 years, 30+ pack years
- Use experienced centers / demonstration projects to ensure quality and effectiveness

Colorectal Cancer

Question

- What do you most commonly recommend for colorectal cancer screening?
  - Fecal occult blood test (FOBT)
  - Fecal immunochemical Test (FIT)
  - Sigmoidoscopy
  - Colonoscopy
  - Virtual Colonoscopy
  - Fecal DNA

Guidelines

Guidelines, Guidelines
Joint Guideline: ACS, ACR,…

- FOBT annually
- Fecal immunochemical test annually
- Flexible sigmoidoscopy every 5 years
- DCBE every 5 years
- CT colonography every 5 years
- Colonoscopy every 10 years
- Stool DNA testing (interval uncertain)

Levin, Gastroenterology, 2008

Joint Guideline Recommendation

- Clinicians should make patients aware of the full range of screening options
- Offer patients a choice between a screening test that is effective at both early cancer detection and cancer prevention through the detection and removal of polyps and a test that is primarily effective at cancer detection
- CRC prevention should be the primary goal of screening

American College of Gastroenterology

- American College of Gastroenterology guidelines for colorectal cancer screening
  (Rex DK. Am J Gastroenterol 2009;104:739)
  - Colonoscopy… remains the preferred CRC screening strategy

American College of Physicians 2015

- Annual high sensitivity gFOBT or FIT
- Flex sigmoidoscopy every 5 years
- High sensitivity gFOBT or FIT every 4 years plus flex sigmoidoscopy every 5 years
- Colonoscopy every 10 years

Ann Int Med 2015
• USPSTF: "A" recommendation (2016)
  - Routine screening from age 50 until 75
• USPSTF "C" recommendation (2016)
  Individuals aged 76 to 85
  - Greater benefit in those not previously screened
• No screening after 85

USPSTF 2016

• Screening for CRC in average-risk patients
  age 50-75 is of substantial net benefit
• Multiple screening strategies available
  - Different levels of evidence
  - Strategies reviewed include colonoscopy,
    FOBT, FIT, flex sig, CT colonography, fecal DNA
    and methylated SEPT9 DNA test
  - No evidence that any strategy provides greater
    net benefit

USPSTF 2016

Colonoscopy: RCTs in progress

• VA
  - Colonoscopy versus fecal immunochemical test
    in reducing mortality from colorectal cancer
• Spain
  - Colorectal cancer screening in average-risk
    population: immunochemical fecal occult blood
    testing versus colonoscopy
• Netherlands
  - Colonoscopy or colonography for screening

USPSTF JAMA 2016

USPSTF JAMA 2016

Newer Tests

• Virtual Colonoscopy
• Stool based molecular testing
  - Fecal DNA
• Combined FIT and Stool DNA
• Septin-9
Computed Tomographic Colonography (Virtual Colonoscopy)

- Non-invasive radiological technique
  - Radiation dose similar to barium enema
- Bowel preparation similar to colonoscopy
  - Prep-less technique is being evaluated
- Does not require sedation
- Colon distended with carbon dioxide or air
- Breath holding for 20-50 seconds
- Colonoscopy to remove polyps

Laxative-Free CT Colonography

- Low fiber diet, orally ingested contrast material and specialized processing software “electronic cleansing”
- 605 adults underwent CTC and OC
- CTC was more accurate in detecting adenomas 10 mm or larger and less so for smaller lesions
  - 91% sensitivity vs 70% for adenoma 8 mm or larger
- Patients preferred it

Potential Harms

- Radiation Exposure
  - 1/1000 could develop solid cancer or leukemia
- Procedure related harms
  - Perforation rate low
- Extra-colonic findings

Extra-colonic Findings

- Extra-colonic findings common: 27 – 69%
- “High” clinical significance require surgical or medical treatment or intervention or further investigation
  - 5 - 11%
- 7-16% of individuals need additional evaluation for extra-colonic findings, but very few abnormalities ultimately required definitive treatment
**Fecal DNA Testing**

- PCR test for DNA mutations in the stool
- **Potential advantages**
  - Non-invasive
  - No preparation
  - Detection along entire length of the colon

**Multi-target Stool DNA Testing**

- Multi-target DNA test (and hemoglobin), FIT, and colonoscopy 9989 average risk adults in multiple centers
- Fecal DNA detects more neoplasms than FIT, but with more false positive results
  - Sensitivity for CRC 92.3% vs 73.8%
  - Specificity for CRC 86.6% vs 94.9%
- Problems with sample collection or assay application greater with DNA test
  - 6.3% vs 0.3%

**Fecal Immunochemical Testing (FIT)**

- Uses labeled antibodies that attach to antigens of any human globin present in the stool
- Globin does not survive passage of the upper GI tract
- No dietary restrictions (easier than FOBT)

**Fecal Immunochemical Testing**

- FIT is more sensitive in detecting CRC and large adenomas (>1 cm) than FOBT
- FIT is a little less specific than FOBT
**Combined FIT-Stool DNA**

- Cologuard is the only combined stool DNA with FIT available in the U.S.
- Colorectal cancer detection
  - Sensitivity 92%
  - Specificity 84%
- More sensitive than FIT but less specific
  - More false positives

**Septin 9**

- Second generation serum assay to detect circulating Septin 9
  - Septin 9 hypermethylated in CRC
  - FDA approved 2016
- Use for those refusing guideline recommended strategies?

---

**Colorectal Cancer Screening: Choices**

- Randomized trial offering colonoscopy, FOBT, or choice of colonoscopy/FOBT
- 997 subjects ages 50 to 79
- 12-month follow up
  - (Inadomi JM. Arch Intern Med 2012;172:575)
- Recommending only colonoscopy led to lower adherence

**Screening Completion**

- Graph showing adherence rates:
  - FOBT
  - COLO
  - CHOICE

(Inadomi JM. Arch Intern Med 2012;172:575)
**Colorectal Cancer Screening: Conclusions**

- Offer testing
- Any screening is better than no screening for reducing colorectal cancer mortality
- Increase awareness of the importance of colorectal cancer screening

**Implications for Practice**

- Recognize importance of patient preferences
  - “The best test is the one that gets done”
- Positive fecal blood tests must be evaluated with diagnostic colonoscopy

**QUESTION**

- What is your usual practice for PSA screening for men aged 50-70?
  - Usually order PSA
  - Sometimes order PSA
  - Rarely order PSA
  - Never order PSA
Prostate Cancer: Should We Screen?

- Disease has high prevalence
  - 10% lifetime risk
  - 30% of men have prostate cancer at autopsy
- Disease has serious consequences
  - Sometimes but may be a benign disease for many men
- Detectable preclinical phase - PSA
- Treatment for preclinical disease is more effective?
  - Complications of prostate cancer treatment
    - 8.4% incontinence
    - 60% impotence
- A Prostate Cancer Outcomes Study 24 month follow-up Screening
- Screening reduces cancer mortality?

SCREENING TESTS: PSA

- PSA testing has increased dramatically since 1988
- Observational studies have had conflicting findings about the benefits of screening
- Two large randomized controlled trials of PSA screening and mortality

PLCO Cancer Screening Trial

- 76,693 men randomized to annual PSA for 6 years plus rectal examination for four years vs usual care
- High rates of screening in the control group
- No significant difference in death between the two groups at 7 year follow-up
  - 2.5 deaths per 10,000 person years in the screening group
  - 1.7 deaths per 10,000 person years in the controls
- Similar results after 10 years
  - Andriole, NEJM 2009

European Randomized Study of Screening for Prostate Cancer (ERSPC)

- 182,160 men aged 50-74 in eight European countries
- PSA screening at least once every four years vs no screening
- Mortality lower in the screened group at 9 year follow-up
  - 7 fewer prostate cancers per 10,000 screened men
- To prevent one prostate cancer death at 11 year follow-up
  - 1,410 men needed to be screened
  - 48 additional prostate cancers treated
- To prevent one prostate cancer death at 13 year follow-up
  - 781 men screened
PSA Screening: Conclusions

• PSA screening may lead to a modest reduction in mortality
• To achieve this mortality reduction, there is a substantial amount of over-diagnosis and over-treatment

USPSTF Recommendations 2012

• Recommended against PSA based screening for prostate cancer
  – PSA can detect early prostate cancer, but inconclusive evidence about whether early detection improves health outcomes.
  – Harms include frequent false positives and unnecessary anxiety, biopsies and potential complications of treatment of some cases of cancer that may never have affected a patient’s health.
  – Grade “D” recommendation

USPSTF Draft Recommendations 2017

• Clinicians should inform men age 55-69 about the potential benefits and harms of PSA screening
  – Grade C
• Decision to screen should be individualized
• No screening in men aged 70 and over
  – Grade D

USPSTF

• Persistent mortality reduction and new evidence to suggest decrease in metastatic prostate cancer with screening
  – 3 fewer cases per 1000 men over 13 years
• No specific recommendations for high risk men
  – Family history, African American
• Public commentary period closed in May, 2017
American Cancer Society

- Men with at least a 10 year life expectancy should have an opportunity to make an informed decision with their health care provider about whether to be screened
- Screening should not occur without an informed decision making process
- Men at average risk should receive the information beginning at age 50
- Information should be provided at age 45 for men at higher risk and age 40 for very high risk
  - American Cancer Society, 2016

- For men unable to decide, the decision can be left to the discretion of the health care provider
- Men with less than a 10 year life expectancy should not be offered screening
  - At age 75, only half of men have a life expectancy of 10 years or more
- Men without access to regular care should be tested only if high quality informed decision making is available through community based programs
  - ACS 2016

American Cancer Society

- For those who choose to be screened
  - PSA with or without DRE
  - Screening yearly for men whose PSA is 2.5 ng/ml or greater
  - If PSA <2.5 ng/ml, screening can be extended to every 2 years
  - PSA of 4.0 ng/ml or greater- referral
  - PSA of 2.5-4.0 ng/ml individualized risk assessment
  - Age, African American, family history, previous negative biopsy
  - ACS, 2016

American Urological Association Guidelines

- The decision to use PSA testing should be individualized
  - Inform men of the potential benefits and risks
- No routine screening for men aged 40-54
- Shared decision making for men aged 55-69
- No routine screening for men aged 70 and over
- Screening intervals can be individualized based on baseline PSA level
  - American Urological Association, 2013
ACP Guidance Statement

- Derived from an appraisal of available guidelines
  - ACPM, ACS, AUA, USPSTF
- Inform men aged 50-69 about limited potential benefits and substantial harms of screening for PSA
  - Base decision on risk for prostate CA, discussion of benefits and harms, health and life expectancy and preferences
  - Do not screen in those who do not have a clear preference for screening

ACP Guidance Statement

- Do not screen average risk men under age 50, over age 69 or with a life expectancy of less than 10-15 years

Prostate Cancer Screening: Summary

- PSA testing may reduce prostate cancer mortality but the benefit is small
- Risks of early detection and treatment
- Shared decision making is key

Summary Of Recommendations

- Women aged 50 to 74 should undergo mammography every 2 years
- Screening decisions for women in their forties and for women and for women aged 75 and older should be individualized
- All men and women aged 50 - 75 should be screened for colorectal cancer
  - Any screening is better than no screening
Summary Of Recommendations

• Screening for lung cancer with low-dose CT reduces mortality
  – USPSTF Recommends screening high risk individuals

• A shared decision making approach is recommended for prostate cancer screening

Questions?

“Today I ate two bowls of dog food, a sandwich crust, some spaghetti that fell on the floor, half of your cat food, a wet tea bag, three bugs and the inside of a amusement park. How many grams of fat is that?”