



# To Screen or Not To Screen: A Review of the USPSTF Recommendations

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## Learning Objectives

- Review the grading system as established by the United States Preventive Services Task Force (USPSTF) as it pertains to the current recommendations for screening
- Discuss the most up-to-date recommendations on screening tests published by the USPSTF with regards to common diseases screened for in primary care

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## What is “Screening”?

- According to cancer.gov — Screening is, “Checking for disease when there are no symptoms. Since screening may find diseases at an early stage, there may be a better chance of curing the disease.”
- According to the W.H.O. 2020 report — “The purpose of screening is to identify people in an apparently healthy population who are at higher risk of a health problem or a condition, so that an early treatment or intervention can be offered and thereby reduce the incidence and/or mortality of the health problem or condition within the population.”

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## What is “Prevention”?

According to the CDC, Prevention can be broken into three general categories:

### Primary Prevention

Intervening before health effects occur, through measures such as vaccinations, altering risky behaviors (poor eating habits, tobacco use), and banning substances known to be associated with a disease or health condition

### Secondary Prevention

**Screening** to identify diseases in the earliest stages, before the onset of signs and symptoms, through measures such as mammography and regular blood pressure testing

### Tertiary Prevention

Managing disease post diagnosis to slow or stop disease progression through measures such as chemotherapy, rehabilitation, and screening for complications

[https://www.cdc.gov/pictureofamerica/pdfs/picture\\_of\\_america\\_prevention.pdf](https://www.cdc.gov/pictureofamerica/pdfs/picture_of_america_prevention.pdf)

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## What Is Our Role as PCPs?

- We are on the front line
- We treat the “whole” patient
- Potential benefits of screening:
  - Early detection
  - Less invasive treatments
  - Less cost (treating end stage diseases can be very expensive)
  - Overall improved morbidity/mortality
- Screening potentially allows “prevention” or mitigation to prevent more severe illness



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## United States Preventive Services Task Force

The U.S. Preventive Services Task Force (USPSTF) is an independent, volunteer panel of national experts in disease prevention and evidence-based medicine.

The Task Force works to improve the health of people nationwide by making evidence-based recommendations about clinical preventive services.

<https://www.uspreventiveservicestaskforce.org/uspstf/>

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## USPSTF

- Created in 1984
- Comprised of members from primary care including internal medicine, family medicine, pediatrics, behavioral health, obstetrics/gynecology, nursing
- Recommendations are based on review of existing peer-reviewed evidence
- Serves as a guide for primary care providers when considering recommending preventive services
- Letter grades (A,B,C,D, or I statement)
- Does not consider cost of the service when assigning a grade
- Only apply to patients with no signs/symptoms of the disease/condition
- Only applies to services in a PCP office or one we might order/refer

<https://www.uspreventiveservicestaskforce.org/uspstf/>

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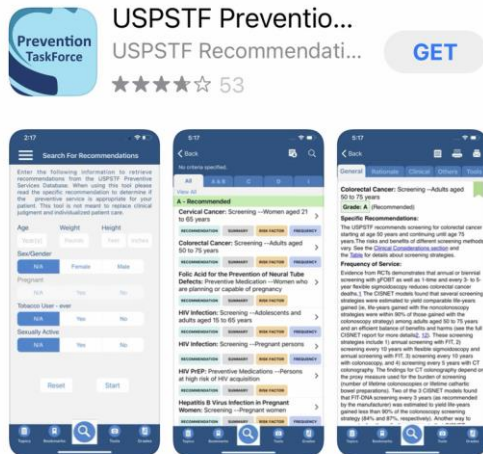
## Grading System for USPSTF (After July 2012)

Grade	Definition	Suggestions for Practice
A	The USPSTF recommends the service. There is high certainty that the net benefit is substantial.	Offer or provide this service.
B	The USPSTF recommends the service. There is a high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.	Offer or provide this service.
C	The USPSTF recommends selectively offering or providing this service to individual patients based on professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small.	Offer or provide this service for selected patients depending on individual circumstances.
D	The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.	Discourage the use of this service.
I Statement	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.	Read the clinical considerations section of USPSTF Recommendation Statement. If the service is offered, patients should understand the uncertainty about the balance of benefits and harms.

<https://www.uspreventiveservicestaskforce.org/uspstf/about-uspstf/methods-and-processes/grade-definitions>

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## App Based Tools for Providers



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## Other Recommendations

- Opinions differ
  - Different academies/associations
  - Different payors
  - Different providers
- \$\$\$ plays a role (whether we like it or not)
  - Population based decisions
  - Individual based decisions
- Personal choice
  - Shared clinical decision making
  - Belief system
  - Prior experiences

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## Meet Claire

- 68-year-old female
- Presents for her annual well woman exam
- Wants to live a long life and worries about developing dementia – should you “test” her for dementia?
- PMHx – hypothyroid for years, menopause age 52 “natural”, osteopenia
- Medications – levothyroxine 100mcg, multivitamin, calcium, Vit D
- FHx – parents lived to mid 80s, mom died from complications due to pneumonia, dad had a stroke at 86 and died a few years later
- SHx – married for 42 years, 2 adult children. Nonsmoker, occasional glass of wine with dinner, walks 2 miles a day, tries to eat healthy
- Pex – unremarkable except for overweight – BMI 28, recent lab work within normal limits



PMHx: Past Medical History; FHx: Family History; SHx: Social History; Pex: Physical Examination

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## Dementia

- Significant decline in 1 or more cognitive domains that interferes with a person’s independence in daily activities
- In the US, 2.4-5.5 million people are estimated to be affected by dementia
- Prevalence increases with age

JAMA. 2020;323(8):757-763. doi:10.1001/jama.2020.0435

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## USPSTF Rationale

Rationale	Assessment
Detection	<ul style="list-style-type: none"> <li>Adequate evidence that some screening tools have relatively high sensitivity and specificity for the detection of dementia</li> <li>When the prevalence of dementia is high (eg, in persons ≥85 y), positive predictive values can be greater than 50%. However, because of lower prevalence, the positive predictive value can be closer to 20% in unselected populations of adults aged 65 to 74 y</li> <li>Sensitivity and specificity of screening tools is generally lower for the detection of MCI than it is for dementia</li> </ul>
Benefits of early detection and intervention and treatment	<ul style="list-style-type: none"> <li>Inadequate direct evidence on the benefits of screening for cognitive impairment</li> <li>Adequate evidence that AChEIs* and memantine have a small effect on measures of cognitive function in the short term for patients with mild to moderate dementia, but it is uncertain if the effects reported in studies are clinically meaningful or sustained over the long term</li> <li>Inadequate evidence on the benefits of other medications or supplements (eg, statins, antihypertensives, or vitamins) and nonpharmacologic interventions targeted to patients</li> <li>Adequate evidence that interventions to support caregivers have a small effect on measures of caregiver burden and depression, but the clinical importance of these effects are uncertain, and the generalizability of these findings to persons with previously unrecognized dementia, detected by screening, is not known</li> <li>Inadequate evidence on the benefits of interventions targeting decision-making or planning by patients, caregivers, or clinicians</li> </ul>
Harms of early detection and intervention and treatment	<ul style="list-style-type: none"> <li>Inadequate direct evidence on the harms of screening for cognitive impairment</li> <li>Inadequate evidence on the harms of nonpharmacologic interventions targeted at the patient, caregiver, or both</li> <li>Adequate evidence that AChEIs are associated with adverse effects, which overall are small but occasionally serious, including syncope or falls</li> </ul>
USPSTF assessment	<ul style="list-style-type: none"> <li>Evidence on screening for cognitive impairment is lacking and the balance of benefits and harms cannot be determined</li> </ul>

JAMA. 2020;323(8):757-763. doi:10.1001/jama.2020.0435 \*AChEI, acetylcholinesterase inhibitor

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## USPSTF Recommendations for Claire

### Recommendation: I Statement

The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for cognitive impairment in older adults.

JANUARY 2020

JAMA. 2020;323(8):757-763. doi:10.1001/jama.2020.0435

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## Meet Richard

- 62-year-old male
- Routine pex – currently no complaints
- PMHx: hypertension, coronary artery disease (s/p stent at age 59)
- SHX: smoked 1/2 pack of cigarettes daily from the age of 19 until age 59 (when he had a mild MI resulting in stent placement) = 20 pack year history
- Question: Should Richard be “screened” for lung cancer?



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## Lung Cancer

- 2<sup>nd</sup> most common cancer in US
- Leading cause of cancer deaths in US
- In 2020:
  - Approximately 228,820 diagnosed with lung cancer
  - 135,720 deaths from lung cancer
- Most common risk factor is smoking
- Increasing age is also a risk factor
- Generally poor prognosis (overall 5-year survival rate of 20.5%)
- Early-stage diagnosis
  - Better prognosis
  - More amenable to treatment

*JAMA.* 2021;325(10):962-970. doi:10.1001/jama.2021.1117

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## USPSTF Rationale

Rationale	Assessment
Detection	Adequate evidence that LDCT has <b>sufficient sensitivity and specificity</b> to detect early-stage lung CA
Benefits of early detection and intervention and treatment	Adequate evidence that annual screening for lung cancer with LDCT in a defined population of high-risk persons <b>can prevent a substantial number of lung cancer-related deaths</b>
Harms of early detection and intervention and treatment	<b>Harms:</b> false-positive = unnecessary tests and invasive procedures, incidental findings, short-term increases in distress due to indeterminate results, overdiagnosis, and radiation exposure <b>Harms found to be moderate in magnitude</b>
USPSTF assessment	Annual screening for lung cancer with LDCT is of <b>moderate net benefit</b> for persons at high risk of lung cancer based on age, total cumulative exposure to tobacco smoke, and years since quitting smoking

LDCT: low-dose computed tomography

JAMA. 2021;325(10):962-970. doi:10.1001/jama.2021.1117

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## USPSTF Recommendations for Richard

Adults aged 50-80 years who have a 20 pack-year smoking history and currently smoke or have quit within the past 15 years:

- Screen for lung cancer with low-dose computed tomography (LDCT) every year
- Stop screening once a person has not smoked for 15 years or has a health problem that limits life expectancy or the ability to have lung surgery

**Grade: B**

JAMA. 2021;325(10):962-970. doi:10.1001/jama.2021.1117

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## Meet Kendra

- 55-year-old female
- Recently had fasting labs for life insurance
- Labs show total cholesterol of 226 (LDL 133, HDL 38)
- BP in your office 142/88 and BMI 31
- Not on any prescription medications for blood pressure
- Smokes ½ ppd for the last 15 years
- FHx: dad with MI at age 74
- Question: Besides working on diet, exercise, weight loss, and tobacco cessation, does she need to take a statin for primary prevention of cardiovascular disease?



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## USPSTF 2022 Guidance

Population	40-75 y risk >10%	40-75 y risk 7.5%-10%	76 y and older
	Adults aged 40-75 y with no history of CVD, ≥1 CVD risk factors, and calculated 10-y CVD event risk ≥10%	Adults aged 40-75 y with no history of CVD, ≥1 CVD risk factors, and calculated 10-y CVD event risk of 7.5%–10%	Adults 76 y and older with no history of CVD
Recommendation	Prescribe a statin for the primary prevention of CVD	Discuss with patient and selectively offer use of statins (likelihood of benefit is smaller in this group)	No recommendation Insufficient evidence to assess benefits vs harms of <b>INITIATING</b> statin for <b>PRIMARY PREVENTION</b>
	Grade: B	Grade: C	Grade: I (insufficient evidence)

JAMA. 2022;328(8):746-753. doi:10.1001/jama.2022.13044

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## How Is This Different? USPSTF 2016 Guidance

Population	40-75 y risk >10%	40-75 y risk 7.5%-10%	76 y and older
	Adults aged 40-75 y with no history of CVD, $\geq 1$ CVD risk factors, and calculated 10-y CVD event risk $\geq 10\%$	Adults aged 40-75 y with no history of CVD, $\geq 1$ CVD risk factors, and calculated 10-y CVD event risk of 7.5%–10%	Adults 76 y and older with no history of CVD
Recommendation	Initiate use of <b>low- to moderate-dose statins</b>	Discuss with patient and selectively offer use of <b>low- to moderate-dose statins</b>	No recommendation
	Grade: B	Grade: C	Grade: I (insufficient evidence)

JAMA. 2016;316(19):1997-2007. doi:10.1001/jama.2016.15450; Corrected on February 18, 2020.

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## Calculated Risk for CVD

### Risk Factors for CVD

- Dyslipidemia (LDL-C  $>130$  mg/dL or HDL-C  $<40$ mg/dL)
- Diabetes
- Hypertension
- Smoking

The USPSTF recommends using the ACC/AHA Pooled Cohort Equations to calculate 10-year risk of CVD events.

Calculation considers the following risk factors:

- Age
- Sex
- Race
- Cholesterol levels
- Systolic blood pressure level
- Antihypertension treatment
- Presence of diabetes
- Smoking status

Recommended App  
**ASCVD Risk Estimator Plus**  
 American College of Cardiology



JAMA. 2016;316(19):1997-2007. doi:10.1001/jama.2016.15450; Corrected on February 18, 2020.  
<https://tools.acc.org/ascvd-risk-estimator-plus/#!/calculate/estimate/>

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## Kendra's ASCVD Risk?

- Age 55
- Sex – Female
- Race – African American
- SBP – 142
- DBP – 88
- Total Cholesterol – 226
- HDL – 38
- LDL – 133
- Diabetic – NO
- Current Smoker – YES
- HTN Treatment – NO
- On a Statin – NO
- On ASA tx – NO



**Current 10-Year ASCVD Risk:  
13.9% intermediate**

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## New Guidance Differs From Other Medical Recommendations

- Differs significantly from the 2018 guidance published by: American College of Cardiology (ACC), American Heart Association (AHA), and 10 other medical societies
- 7.5-10% risk group
- USPSTF pairs guidance with 1 of 4 CV risk factors (dyslipidemia, diabetes, hypertension or smoking)
- Does not take into consideration other tools to assess risk/CAD
  - Coronary Artery Calcium (CAC) Score
  - Other labs (advanced cardiac labs, etc)

*J Am Coll Cardiol.* 2019 Jun 25;73(24):e285-e350. doi: 10.1016/j.jacc.2018.11.003

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## Meet Selma

- 38-year-old female for her annual well woman exam
- PMHx: positive for asthma
- FHx: unknown – was adopted
- Pex: Vitals show BMI 28, all else normal
- ROS: All negative
- Question for Selma – should she be screened for Prediabetes and Type 2 Diabetes?



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## Prediabetes and Type 2 Diabetes

- Prevalence of Type 2 Diabetes – 13% of US adults
- Prevalence of Prediabetes – 34.5% of US adults
- Diabetes:
  - Leading cause of kidney failure in US
  - Leading cause of adult new cases of blindness
  - Increased risk
    - CVD (cardiovascular disease)
    - NAFLD (nonalcoholic fatty liver disease)
    - NASH (nonalcoholic steatohepatitis)
  - In 2017, it was estimated to be the 7<sup>th</sup> leading cause of death in US

JAMA. 2021;326(8):736-743. doi:10.1001/jama.2021.12531

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## USPSTF Rationale

Rationale	Assessment
Benefits of detection and early intervention	<ul style="list-style-type: none"> <li>• <b>Inadequate direct evidence</b> that screening for type 2 diabetes/prediabetes leads to improvements in mortality or cardiovascular morbidity</li> <li>• <b>Adequate evidence</b> that interventions for newly diagnosed diabetes have a moderate benefit in reducing all-cause mortality, diabetes-related mortality, and risk of myocardial infarction after 10 to 20 years of intervention</li> <li>• <b>Convincing evidence</b> that preventive interventions (lifestyle interventions), for prediabetes have a moderate benefit in reducing the progression to type 2 diabetes, as well as reducing other CVD risk factors (blood pressure, lipid levels). Other preventive interventions - effective in reducing the progression to type 2 diabetes without necessarily reducing other CVD risk factors</li> </ul>
Harms of early detection and intervention and treatment	<b>Harms</b> of screening – found to be <b>no greater than small</b>
USPSTF assessment	Moderate certainty that screening for prediabetes and type 2 diabetes and offering or referring patients with prediabetes to effective preventive interventions has a <b>moderate net benefit</b>

JAMA. 2021;326(8):736-743. doi:10.1001/jama.2021.12531

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## USPSTF Recommendations for Selma

Adults aged 35-70 years who have overweight or obesity:

- Screen for prediabetes and type 2 diabetes
- Offer or refer patients with prediabetes to effective preventive interventions

Grade: B

JAMA. 2021;326(8):736-743. doi:10.1001/jama.2021.12531

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## Meet Jeremy

- 47-year-old male for pre-employment physical exam
- Does not routinely go to the doctor  
“I am healthy”
- PMHx: seasonal allergies
- FHx: negative for heart disease and no known cancers
- SHx: never smoked, doesn't drink
- Question from Jeremy: “Someone told me I need to be checked for colon cancer. I thought you didn't do that until age 50?”



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## Colon Cancer

- 3<sup>rd</sup> leading cause of cancer death (for both men and women)
- Estimated 52,980 deaths in US from colorectal cancer (CRC) in 2021
- Majority of cases dx between ages 65-74
- 10.5% new CRC cases dx <50 years
- Increase in CRC (adenoCA specifically) incidence in age group 40-49 by almost 15% from 2000-2002 to 2014-2016

JAMA. 2021;325(19):1965-1977. doi:10.1001/jama.2021.6238; Corrected on August 24, 2021.

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## USPSTF Rationale - Age dependent (Adults 45-49 years)

Rationale	Adults (45-49 years)
Detection	<b>Adequate evidence</b> that screening can accurately detect CRC and adenomatous polyps (various screening methods)
Benefits of early detection/ intervention/treatment	<b>Adequate evidence</b> that screening provides moderate benefit in decreasing mortality from CRC and increasing life-years gained
Harms of early detection/ intervention/treatment	<b>Harms are small</b> (primarily associated with colonoscopy – bleeding/perforation risk overall low)
Assessment	<b>Moderate net benefit</b> in starting screening for CRC in adults aged 45-49 years

JAMA. 2021;325(19):1965-1977. doi:10.1001/jama.2021.6238; Corrected on August 24, 2021.

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## USPSTF Recommendations for Jeremy

For adults aged 45-49 years (who have no symptoms and are at average risk):

- Screen adults aged 45 to 49 years for colorectal cancer

Grade B

JAMA. 2021;325(19):1965-1977. doi:10.1001/jama.2021.6238; Corrected on August 24, 2021.

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## USPSTF Rationale (Adults 50-75 years)

Rationale	Adults (50-75 years)
Detection	<b>Convincing evidence</b> that CRC screening (several different methods available) can adequately detect early-stage CRC and adenomatous polyps
Benefits of early detection/intervention/treatment	<b>Convincing evidence of substantial benefit</b> in reducing CRC mortality and increasing life-years gained
Harms of early detection/intervention/treatment	Adequate evidence that <b>harms are small</b> (bleeding, perforation risk with colonoscopy)
Assessment	<b>Substantial net benefit</b> of screening for CRC in adults aged 50-75 years

JAMA. 2021;325(19):1965-1977. doi:10.1001/jama.2021.6238; Corrected on August 24, 2021.

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## USPSTF Recommendations (Adults aged 50-75 years)

For adults aged 50-75 years (who have no symptoms and are at average risk):

- Screen all adults aged 50-75 years for colorectal cancer

**Grade A**

JAMA. 2021;325(19):1965-1977. doi:10.1001/jama.2021.6238; Corrected on August 24, 2021.

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## USPSTF Rationale (Adults 76 years and older)

Rationale	Adults (76 years and older)
Detection	<b>Convincing evidence</b> that CRC screening (several different methods available) can adequately detect early-stage CRC and adenomatous polyps
Benefits of early detection/intervention/treatment	<b>Convincing evidence of small, to moderate benefit</b> in reducing CRC mortality and increasing life-years gained in adults aged 76-85 years
Harms of early detection/intervention/treatment	<b>Harms</b> from screening <b>small to moderate</b> . <b>Rate of serious adverse events increase with age</b> (colonoscopy, extracolonic findings with CT colonography)
Assessment	<b>Small net benefit</b> of screening (for those who have been previously screened)

*JAMA.* 2021;325(19):1965-1977. doi:10.1001/jama.2021.6238; Corrected on August 24, 2021.

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## USPSTF Recommendations (Adults 76 years and older)

For adults aged 76-85 years (who have no symptoms and are at average risk):

- Selectively screen adults aged 76-85 years for colorectal cancer, considering the patient's overall health, prior screening history, and patient's preferences

**Grade C**

*JAMA.* 2021;325(19):1965-1977. doi:10.1001/jama.2021.6238; Corrected on August 24, 2021.

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## Meet Herman

- 68-year-old man presents for his yearly lab work
- PMHx: HTN controlled on medication, elevated lipids takes a statin daily
- Fhx: negative for cancer
- Question: In addition to his routine cholesterol, chemistry panel, do you order a PSA test to screen for prostate cancer?



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## Prostate Cancer

- In the US
  - Lifetime risk of dx 11%
  - Lifetime risk of dying from prostate CA 2.5%
- Median age of death from prostate CA – 80 years
- Many are asymptomatic (would never know if not screened)
- African American men at increased risk
- Family history increases risk

*JAMA.* 2018;319(18):1901-1913. doi:10.1001/jama.2018.3710

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## USPSTF Rationale

Rationale	Assessment
Informed Decision Making	55-69 years old discuss benefits vs harms of screening (screening offers <b>small potential benefit of reducing the chance of death from prostate cancer</b> in some men; however <b>potential harm from screening/false positives</b> ; harm greater for those older than 70)
Risk Assessment	Older Age; African American race; family history – risk factors for prostate cancer
Screening Tests	PSA (elevations can occur in other conditions – BPH, prostatitis)
Treatments	<ol style="list-style-type: none"> <li>1. Surgical removal (radical prostatectomy)</li> <li>2. Radiation therapy</li> <li>3. Active surveillance</li> </ol>

JAMA. 2018;319(18):1901-1913. doi:10.1001/jama.2018.3710

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## USPSTF Recommendations for Herman

### Men aged 55-69 years (ie, Herman)

- The decision to be screened for prostate cancer should be an individual one

Grade C

### Men 70 years and older

- Do not screen for prostate cancer

Grade D

JAMA. 2018;319(18):1901-1913. doi:10.1001/jama.2018.3710

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## Meet Cynthia

- 52-year-old perimenopausal female presents for well woman exam – no complaints
- Menarche started age 14 and was fairly regular
- G2P2 with uncomplicated pregnancies and NSVD
- FHx negative for cancer
- SHx nonsmoker, does not drink alcohol, exercises regularly
- Question: Her best friend (51-years-old) recently diagnosed with stage 3 ovarian cancer. Her friend suggested that she (Cynthia) get screened for ovarian cancer. Wants to know if she should be screened?
- Pex: normal gyn exam



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## Ovarian Cancer

- Approximately 14,000 deaths per year due to ovarian cancer
- 5<sup>th</sup> leading cause of cancer death among US women
- Leading cause of death from gynecologic cancer among US women
- Over 95% of ovarian cancer deaths occur among women 45 years and older

*JAMA*. 2018;319(6):588-594. doi:10.1001/jama.2017.21926

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## USPSTF Rationale

Rationale	Assessment
Risk Assessment	The clinical symptoms of ovarian cancer (eg, abdominal pain or pressure, bloating, constipation, urinary symptoms, back pain, or fatigue) are nonspecific and may be present in both healthy women and women with late-stage ovarian cancer; therefore, use of clinical symptoms for risk stratification for the early detection of disease is difficult
Screening Tests	Transvaginal uts, serum Ca-125, bimanual exams – have not been shown to decrease mortality from ovarian cancer in asymptomatic women not at high risk. False positives result in stress and possible surgical intervention
Recommendations	The USPSTF concluded that the current evidence is insufficient to assess the balance of benefits and harms of screening with pelvic examination to detect a range of gynecologic conditions in asymptomatic, nonpregnant women
Other Relevant USPSTF Recommendations	The USPSTF recommends that women with a family history indicating they are at risk for a deleterious gene mutation (BRCA1 or BRCA2) be referred for genetic counseling and, if indicated, genetic testing

JAMA. 2018;319(6):588-594. doi:10.1001/jama.2017.21926

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## USPSTF Recommendations for Cynthia

Population Recommendation: **D**

Asymptomatic women without a known high-risk hereditary cancer syndrome. Do not screen for ovarian cancer in asymptomatic women.

JAMA. 2018;319(6):588-594. doi:10.1001/jama.2017.21926

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## Meet Taylor

- 13-year-old female for well child check
- Upon completing your “HEADSS” Assessment you learn the following:
  - **H:** Lives at home with married mother and father and younger brother “all good – younger brother is annoying”
  - **E:** 7<sup>th</sup> grade student in honors classes As and Bs – likes school
  - **A:** On a club soccer team and likes to hang out with friends and listen to music
  - **D:** Denies use of tobacco (including vaping), alcohol, or illicit drugs (some of the kids at school vape)
  - **S:** Denies having been sexually active
  - **S:** Denies suicidal or homicidal ideation (denies feelings of depression/self harm)
- Question for Taylor – Should you provide “interventions, including education or brief counseling, to prevent initiation of tobacco use”?



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## Tobacco

- Leading cause of preventable death in US
- Approximately 480,000 deaths attributable to tobacco use yearly (including second hand)
- Approximately 1,600 youths (age 12-17) smoke their first cigarette every day
- Estimated that 5.6 million adolescents alive today will die prematurely from a smoking-related illness
- E-cigarette smoking is now more common than traditional cigarettes in adolescents
- Nicotine exposure in adolescence harms brain development
  - Affects brain function and cognition
  - Affects mood
  - Affects attention

*JAMA.* 2020;323(16):1590-1598. doi:10.1001/jama.2020.4679

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## USPSTF Rationale

Rationale	Prevention	Cessation
Benefits of intervention	<b>Adequate evidence</b> that behavioral counseling interventions can have a moderate effect in preventing initiation of tobacco use in school-aged children and adolescents	<ul style="list-style-type: none"> <li><b>Inadequate evidence</b> on behavioral counseling (small sample size, inadequate power of study)</li> <li><b>Inadequate evidence</b> on medications for cessation (inadequate # of studies)</li> </ul>
Harms of intervention	<b>Harms – small</b> : absence of reported harms in the evidence, the noninvasive nature of the interventions, and the low likelihood of serious harms	<ul style="list-style-type: none"> <li><b>Harms – small</b>: absence of reported harms in the evidence, the noninvasive nature of the interventions, and the low likelihood of serious harms</li> <li><b>Inadequate evidence</b> on harms of medication</li> </ul>
USPSTF assessment	<b>Moderate net benefit</b>	<b>Insufficient evidence</b> to balance benefit vs harms in children and adolescents that already smoke

JAMA. 2020;323(16):1590-1598. doi:10.1001/jama.2020.4679

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## USPSTF Recommendation for Taylor

The USPSTF recommends:

Primary care clinicians provide interventions, including education or brief counseling, to prevent initiation of tobacco use among school-aged children and adolescents.

**Grade B**

What if Taylor admits to already smoking/vaping?

The USPSTF concludes:

Current evidence is insufficient to assess the balance of benefits and harms of primary care–feasible interventions for the cessation of tobacco use among school-aged children and adolescents.

**I Statement**

JAMA. 2020;323(16):1590-1598. doi:10.1001/jama.2020.4679

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## Summary

- Screening is the process of “checking for disease when there are no symptoms”
- Potential benefits of screening
  - Early detection
  - Less invasive treatments
  - Less cost (treating end stage diseases can be very expensive)
  - Overall improved morbidity/mortality
- The USPSTF is tasked with making evidence-based recommendations about clinical preventive services