Clinical Preventive Services for the Older Adult

US Preventive Services Task Force

William R. Phillips, MD, MPH
TJ Phillips Endowed Professor in Family Medicine
University of Washington
2014

Learning goals

1. Outline the USPSTF recommendation process.
2. Update key recent USPSTF recommendations.
3. Discuss special considerations for prevention in the older adult.

Disclosures

- No conflicts of interest
- No off-label recommendations
- All recommendations from USPSTF

What is the USPSTF?

- Established by congress in 1984.
- Independent panel of non-federal experts
- Supported by AHRQ
- Mission: *To improve the quality, safety, efficiency, and effectiveness of health care for all Americans*

What does the USPSTF do?

Systematically reviews evidence for clinical preventive services:

- screening tests
- counseling services
- preventive medications

Makes recommendations on services for

- adults and children
- without symptoms
- in the primary care setting

USPSTF Recommendation Grades	
Grade	**Definition**
A	Recommended.
B	Recommended.
C	Recommendation depends on the patient's situation.
D	Not recommended.
I statement	There is not enough evidence to make a recommendation.

Recommend against service

What *doesn't* the USPSTF do?

- Does not conduct research.
- Does not consider financial impact.
- Does not make coverage decisions.
- Does not issue clinical guidelines on the care of patients with symptoms or illness.

What the USPSTF is not

- The *Death Panel*
- Specialists issuing protocols for PC clinicians.
- Part of Obamacare
- A closed door secret panel
- Cost cutting federal agents

Who is the USPSTF?

- Carefully vetted for conflicts of interest
- Serve 4 year terms as unpaid volunteers.
- Specialties represented:
  - family medicine
  - internal medicine
  - pediatrics
  - obstetrics/gynecology
  - nursing
  - behavioral health

Mrs. Abernathy

86 year old widowed woman asking for a health maintenance check-up.

- No signs or symptoms
- No FMH of cancer
- Past Paps negative.
- Had a negative mammogram 5 years ago.
- Quit smoking 3 yrs ago after 40 years of 1 ppd.

➢ **What preventive services does the USPSTF recommend for this patient?**

Mrs. Abernathy

86 year old widowed woman asking for a health maintenance check-up.

Does she need?

- Pap
- Mammogram
- Chest X-ray
- Colonoscopy
- Alzheimer's Disease screening
- Ovarian cancer screening
- Alcohol Misuse – Screening and Counseling

Mrs. Abernathy

86 year old female recent smoker

USPSTF recommends:

~~Pap~~

~~Mammogram~~

Chest X-ray – Chest CT screen for lung ca

~~Colonoscopy~~

~~Alzheimer's Disease screening~~

~~Ovarian cancer screening~~

Alcohol Misuse – Screening and Counseling

Evidence-Based Medicine

"EBM is the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients. The practice of EBM means integrating individual clinical expertise with the best available external clinical evidence from systematic research."

Sackett DL. 1996

Balancing benefits and harms

Benefits – Harms = Net Health Benefit

All interventions have harms.

Primary prevention starts with asymptomatic people.

Recommendations must offer a positive net benefit.

Benefits of Screening

The question is *not* –

- Does diagnosis and treatment improve outcomes?

Key question *is* –

- Does early diagnosis through screening – before condition would otherwise become clinically apparent – lead to an extra increment of improvement in patient-relevant outcome?

Harms of Screening

- Hazards intrinsic to the test
- Adverse effects of unnecessary treatment
- False-positives: anxiety, follow-up tests
- False-negatives: false reassurance
- Labeling
- Diverts resources
- Clinical cascades start with simple steps.

Grade	USPSTF Recommendations
A	TF recommends the service. There is high certainty that the net benefit is substantial.
B	TF recommends the service. There is high certainty that the net benefit is moderate, or there is moderate certainty that the net benefit is moderate to substantial.
C	Existing evidence indicates that the benefit of service is small, and the harms are at least small/moderate. Clinicians may choose to selectively offer this service to patients rather than recommending for all patients.
D	TF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.
I	TF concludes that current evidence is insufficient to assess the balance of benefits and harms of the service.

USPSTF Grades of Recommendation

Certainty of Net Benefit	**Magnitude of Net Benefit**			
	Substantial	Moderate	Small	Zero/negative
High	**A**	**B**	**C**	**D**
Moderate	**B**	**B**	**C**	**D**
Low	**Insufficient (I Statement)**			

Suggestions for Practice

A — Offer or provide the service.

B — Offer or provide the service.

C — Offer or provide service only if other considerations support it in an individual patient.

D — Discourage the use of this service.

Questions about the USPSTF?

U.S. Preventive Services TASK FORCE

Prevention in the Older Adult

Prevention Update – Older Adults – 2014 - 1

Condition	Year	Grade
Alcohol Misuse – Screening and Counseling	2013	B
Abuse of Elderly and Vulnerable Adults	2013	I
Breast Cancer Risk Assessment - BRCA	2013	B - HR
Breast Cancer Preventive Meds	2013	B - HR
Cervical Cancer Screening – over 65 yo	2012	D
Coronary Heart Disease Screening - ECG	2012	D
Dementia Screening	2014	I
Falls Prevention in Older Adults	2012	B/C
Fracture Prevention – Vit D and Calcium	2013	I/D
Glaucoma Screening	2013	I
Hearing Loss in Older Adults	2012	I
Hormone Replacement Therapy	2012	D
Kidney Disease Screening	2012	I

Prevention Update – Older Adults – 2014 - 2

Condition	Year	Grade
Lung Cancer Screening	2013	B
Obesity Screening - Management BM-I30	2012	B
Osteoporosis Screening	2011	B
Ovarian Cancer Screening	2012	D
Peripheral Arterial Disease Screening	2013	I
Prostate Cancer Screening	2012	D
Skin Cancer Prevention Counseling	2012	B
Supplements to prevent CVD and Cancer	2014	D
Vision Screening in Older Adults	2009	I

A Recommendations – Strong Evidence

- No new A recommendations

- Standing A recommendations for older adults:
  See ePSS - *Electronic Preventive Services Selector*

B Recommendations - Moderate Evidence

- Alcohol Misuse – Screening and Counseling
- Breast Cancer Risk Assessment – BRCA - high risk pts
- Breast Cancer Preventive Meds – high risk pts
- Falls Prevention in Older Adults B/C
- Lung Cancer Screening
- Obesity Screening and Management - BM-I30
- Osteoporosis Screening
- Skin Cancer Prevention Counseling

Screening and Behavioral Counseling to Reduce Alcohol Misuse

The USPSTF **recommends** that clinicians screen adults aged 18 years or older for alcohol misuse and provide persons engaged in risky or hazardous drinking with brief behavioral counseling interventions to reduce alcohol misuse. Grade: B Recommendation

May 2013

Screening to Reduce Alcohol Misuse

Numerous screening instruments:

- AUDIT
- Abbreviated AUDIT-C
- Single-question screening, such as asking,

  "How many times in the past year have you had 5 (for men) or 4 (for women and all adults older than 65 years) or more drinks in a day?"

Behavioral Counseling to Reduce Alcohol Misuse

- Counseling interventions PC can decrease risky or hazardous drinking.
- Brief multi-contact behavioral counseling has best evidence of effectiveness.
- Moderate net benefit to alcohol misuse screening and brief behavioral counseling.

Prevention of Falls in Community-Dwelling OA

- The USPSTF **recommends** exercise or physical therapy and vitamin D supplementation to prevent falls in community-dwelling adults aged 65 years or older who are at increased risk for falls. Grade: B Recommendation.

May 2012

Prevention of Falls in Community-Dwelling OA

- Effective exercise and PT interventions
  - Group classes and at-home PT
  - Intensity from low (≤9h) to high (>75h).
- Vitamin D – RDA:
  - 600 IU for ages 51-70 years
  - 800 IU over 70 years.
  - Benefit from vitamin D occurs by 12 months.

Fall Prevention in Community-Dwelling OA

- The USPSTF does not recommend automatically performing an in-depth multifactorial risk assessment in conjunction with comprehensive management of identified risks to prevent falls in community-dwelling adults aged 65 years or older because the likelihood of benefit is small. In determining whether this service is appropriate in individual cases, patients and clinicians should consider the balance of benefits and harms on the basis of the circumstances of prior falls, comorbid medical conditions, and patient values. Grade: C Recommendation.

May 2012

Screening for Lung Cancer

USPSTF **recommends**

annual screening for

lung cancer with

low-dose computed *CT*….

Screening for Lung Cancer

- The USPSTF **recommends annual screening** for lung cancer with low-dose computed tomography in adults ages 55 to 80 years who have a 30 pack-year smoking history and currently smoke or have quit within the past 15 years. Screening should be discontinued once a person has not smoked for 15 years or develops a health problem that substantially limits life expectancy or the ability or willingness to have curative lung surgery. Grade: B recommendation.

December 2013

Lung Cancer – Risk Assessment

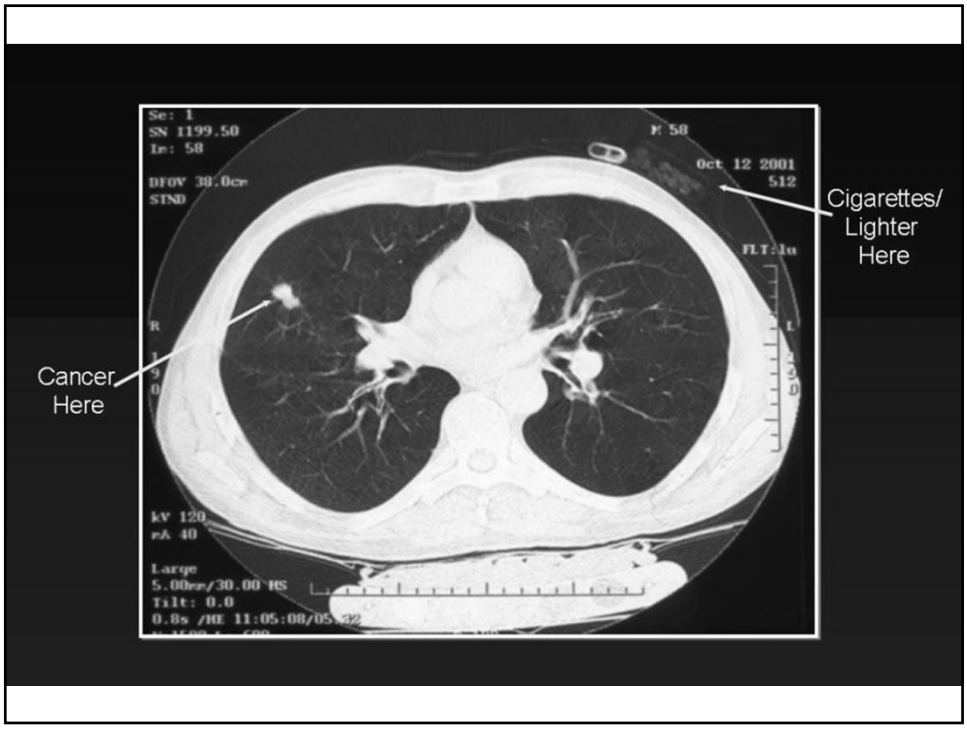
Most important risk factors
- Age
- Total cumulative exposure to tobacco smoke
- Years since quitting smoking

Other risk factors
- Occupational exposures, radon, family history
- History of pulmonary fibrosis or COPD.

Lung Cancer – Screening Tests

Low-dose Computed Tomography has
- high sensitivity and acceptable specificity for
- detecting lung cancer in high-risk persons.

It is the only screening test recommended for lung ca.
- CXR screening does not work



Lung Cancer - Treatment

Non–small cell lung cancer is treated with

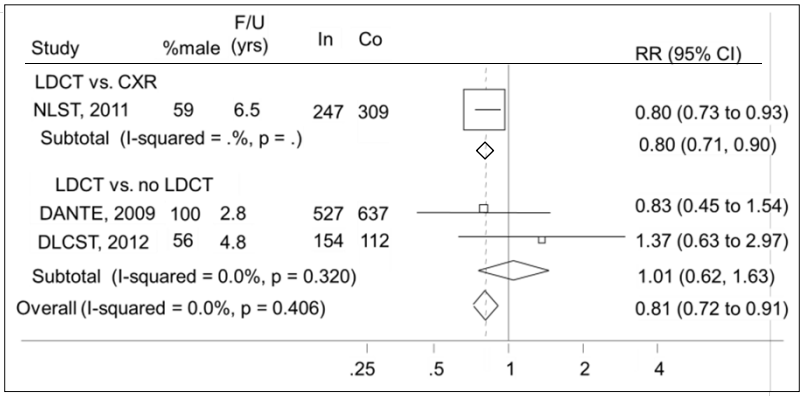
- surgical resection when possible and
- also with radiation and chemotherapy.

Lung Cancer – Evidence Base

Large high quality RTCs:

- Reduced lung ca mortality 20%
- Reduced overall mortality 7%
- NNS to prevent one lung ca death - 320
- Most patients with biopsy had lung ca.
- Rate of over-diagnosis is not known.

Meta-analysis Lung Cancer Mortality



Lung Cancer - Balance of Benefits and Harms

Annual screening for lung cancer
with low-dose CT is of
moderate net benefit in
asymptomatic persons who are at
high risk for lung cancer based on age and smoking hx.

Lung Cancer prevention is more than screening

USPSTF recommends counseling and interventions to prevent tobacco use and tobacco-caused disease.

Community level prevention programs.

Advocacy and policy changes.

Osteoporosis Screening

- The USPSTF **recommends** screening for osteoporosis in women aged **65 years** or older and in younger women whose fracture risk is equal to or greater than that of a 65-year-old white woman who has no additional risk factors. Grade: B Recommendation.
- The USPSTF concludes that the current evidence is **insufficient** to assess the balance of benefits and harms of screening for osteoporosis in **men**. Grade: I Statement

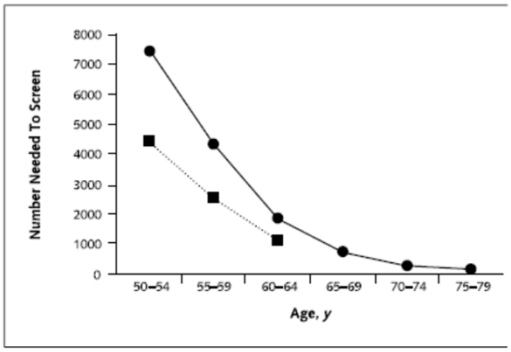
January 2011

Osteoporosis Screening

- No controlled studies of screening for on fractures
- Convincing evidence that drug therapies reduce fractures.
- Adequate evidence on harms:
  - Bisphosphonates harm are no greater than small
  - Estrogen and SERMs harms are small to moderate
- Net benefit of screening for osteoporosis by DXA is at least moderate.

Screening for osteoporosis to prevent hip fracture

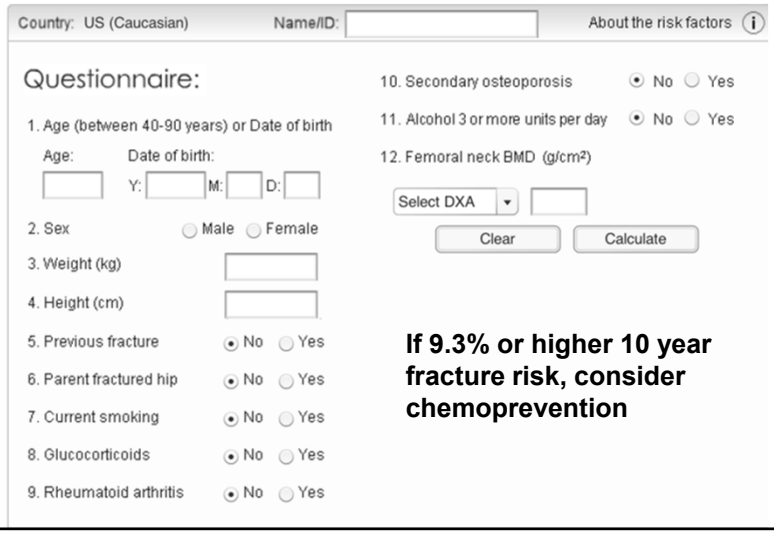
Figure. Number needed to screen to prevent one hip fracture in 5 years.



The dotted line indicates women with at least one risk factor; the solid line indicates women without risk factors.

Ann Intern Med 2002 137(6)

Osteoporosis screening: FRAX tool at http://www.shef.ac.uk/frax for 10 year fx risk



If 9.3% or higher 10 year fracture risk, consider chemoprevention

45

C Recommendations – Small Benefit/Evidence

- No new C recommendations
- *(These are the trickiest to manage in practice.)*

D Recommendations – Against Use

- Cervical Cancer Screening – over 65 yo
- Coronary Heart Disease Screening with ECG
- Fracture Prevention – Vitamin D and Calcium
- Hormone Replacement Therapy
- Ovarian Cancer Screening
- Prostate Cancer Screening
- Supplements to prevent CVD and Cancer

Fracture Prevention in Post-Meno. Women

- The USPSTF concludes that the current evidence is **insufficient** to assess the balance of the benefits and harms of daily supplementation with
  - combined vitamin D and calcium supplementation
  - greater than 400 IU of vitamin D_3
  - greater than 1,000 mg of calcium

  for the primary prevention of fractures in non-institutionalized postmenopausal women. Grade: I Statement.

February 2013

Fracture Prevention in Post-Meno. Women

- The USPSTF recommends **against** daily supplementation with
  - 400 IU *or less* of vitamin D_3 and
  - 1,000 mg *or less* of calcium

for the primary prevention of fractures in non-institutionalized postmenopausal women. Grade: D Recommendation.

February 2013

Fracture Prevention in Post-Meno. Women

- **Adequate** evidence that daily suppl with 400 IU of vitamin D_3 and 1,000 mg of calcium has *no effect* on the incidence of fractures in postmenopausal women.
- Inadequate evidence on effect of higher doses of combined vitamin D and calcium.

Ovarian Cancer Screening

- The USPSTF recommends **against** screening for ovarian cancer in women. Grade: D Recommendation.

September 2012

Ovarian Cancer Screening

- Ovarian ca has high mortality rate.
- Prevalence and predicative value are low.
- *Adequate* evidence that
- Screening does not improve outcomes:
  - transvaginal ultrasonography
  - serum CA-125 testing
  - bimanual pelvic examination

Prostate Cancer Screening

- The USPSTF recommends against PSA-based screening for prostate cancer.

  Grade: D Recommendation.

May 2012

Cancers hidden beneath the surface

1. Cancers that will never surface without screening. Treatment can only do harm. "Overdiagnosis"

2. Cancers for which outcomes are good, even if not detected by screening

3. Cancers for which early diagnosis through screening prolongs life

4. Cancers that - even when detected through screening - are still fatal

Cancers hidden beneath the surface

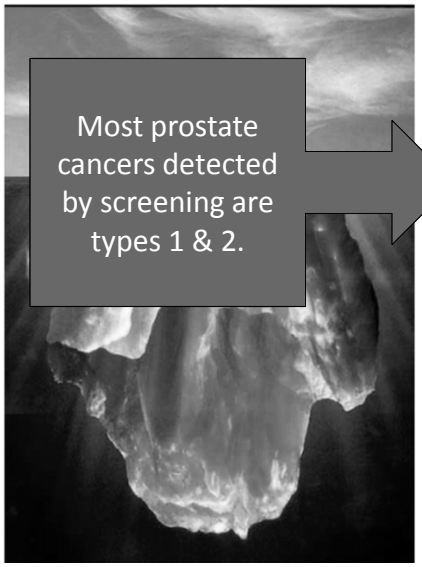
1. Cancers that will never surface without screening. Treatment can only do harm. "Overdiagnosis"

2. Cancers for which outcomes are good, even if not detected by screening

3. Cancers for which early diagnosis through screening prolongs life

4. Cancers that - even when detected through screening - are still fatal

Cancers hidden beneath the surface



1. Cancers that will never surface without screening. Treatment can only do harm. "Overdiagnosis"

2. Cancers for which outcomes are good, even if not detected by screening

3. Cancers for which early diagnosis through screening prolongs life

4. Cancers that - even when detected through screening - are still fatal

PSA - What is the Net Benefit?

Benefits of PSA Screening	
Reduced 10-yr risk of dying from prostate ca	
Men that die from prostate ca with no screening	5 in 1,000
Men that die from prostate ca with screening	4-5 in 1,000
Men that avoid death from prostate ca because of screening	0-1 in 1,000

57

PSA - What is the Net Benefit?

Harms of Screening	
False positives ("cancer scares") are common	120 in 1000
Men dxd with prostate ca and undergo tx (most would do well with no treatment)	110 in 1,000
Erectile dysfunction due to treatment	29 in 1000
Urinary incontinence due to treatment	18 in 1000
DVT, PE or CV event due to treatment	3 in 1000
Die as a result of treatment complications	1 in 3000

58

PSA Screening - Net benefit

- If you do PSA screening for 14 years in 1000 men, you will:
  - Prevent one death due to prostate cancer.
  - Make about 30-40 men impotent or incontinent.
  - Cause a major complication in 3 due to treatment.
  - **No change all-cause mortality** (RR 0.99, 250k pts)

59

PSA Screening - Net benefit

For the vast majority screened, dx'd and tx'd, screening:

- Did not did not lengthen their lives.
- Did not improve the quality their lives.

But PSA screening DID -

- Expose them to significant harms.

They are all now "cancer survivors" who believe PSA saved their lives.

60

Vitamin, Mineral, and Multivitamin Supplements for Primary Prevention of CV Disease and Cancer

USPSTF recommends **against** the use of β-carotene or vitamin E supplements for the prevention of cardiovascular disease or cancer.

Grade: D recommendation

.

February 2014

Vitamin, Mineral, and Multivitamin Supplements for Primary Prevention of CV Disease and Cancer

Evidence is **insufficient** to assess balance of benefits and harms of the use of

- Multivitamins for the prevention of cardiovascular disease or cancer. Grade: I statement.
- Single- or paired-nutrient supplements (except β-carotene and vitamin E) for the prevention of cardiovascular disease or cancer. Grade: I statement.

February 2014

I Statements – Insufficient Evidence

- Abuse of Elderly and Vulnerable Adults
- Dementia Screening – Cognitive Impairment
- Fracture Prevention – Vitamin D and Calcium
- Glaucoma Screening
- Hearing Loss in Older Adults
- Kidney Disease Screening
- Peripheral Arterial Disease Screening
- Vision Screening in Older Adults

I Statements – Why not use?

Why not provide preventive services lacking convincing evidence?

- Possible harms of all interventions
- Clinical cascade of adverse events
- Competing demands of practice
- Worthless tasks displace valuable care.

I Statements – Suggestions for Practice:

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.

Screening for Intimate Partner Violence and Abuse of Elderly and Vulnerable Adults

- The USPSTF concludes that the current evidence is **insufficient** to assess the balance of benefits and harms of screening all elderly or vulnerable adults (physically or mentally dysfunctional) for abuse and neglect. Grade: I Statement.

January 2013

Screening for Cognitive Impairment in OA

The USPSTF concludes that the current evidence is **insufficient** to assess the balance of benefits and harms of screening for cognitive impairment. Grade: I Statement.

March 2014

Screening for Cognitive Impairment

Importance

- 2.4 to 5.5 million Americans.
- Increases with age: 5% at 71-79, 24% at 80-89, 37% over 90.
- Mild cognitive impairment ranges, 3%-42% at 65+ yrs.

Detection

- Screening tools have sensitivity and specificity to be clinically useful.

Screening for Cognitive Impairment

Benefits of Detection and Early Intervention

- Inadequate direct evidence on the benefits of screening.
- Therapies have a small effect on cognitive function short term for patients with mild to moderate dementia.
- Magnitude of the clinically relevant benefit is uncertain.
- Interventions targeted to caregivers have a small effects.
- No published evidence on the effect of screening on decision making or planning.

Screening for Cognitive Impairment

Harms of Detection and Early Intervention

- Inadequate evidence on the harms of screening and of nonpharmacologic interventions.
- Adequate evidence that acetylcholinesterase inhibitors have adverse effects, some serious: central nervous system disturbances and arrhythmia. GI sx common.

Screening for Cognitive Impairment

USPSTF Assessment

- The USPSTF concludes that the evidence on screening for cognitive impairment is lacking and that the balance of benefits and harms cannot be determined.
  I Statement

Glaucoma Screening

- The USPSTF concludes that the current evidence is **insufficient** to assess the balance of benefits and harms of screening for primary open-angle glaucoma in adults. Grade: I Statement.

August 2012

Glaucoma Screening

- Screening tests in PC do not have acceptable accuracy.
- Treatments effective in reducing IOP have potential harms.
- Uncertain effectiveness in reducing patient-perceived impairment in vision-related function.
- Inadequate benefits of screening or treatment to delay or prevent visual impairment or improve quality of life.
- Overall certainty of the evidence is low
- Cannot determine the balance of benefits and harms.

Vision Screening in Older Adults

- The USPSTF concludes that the current evidence is **insufficien**t to assess the balance of benefits and harms of screening for visual acuity for the improvement of outcomes in older adults. Grade: I statement.

July 2009

Not Recommended above age 65+

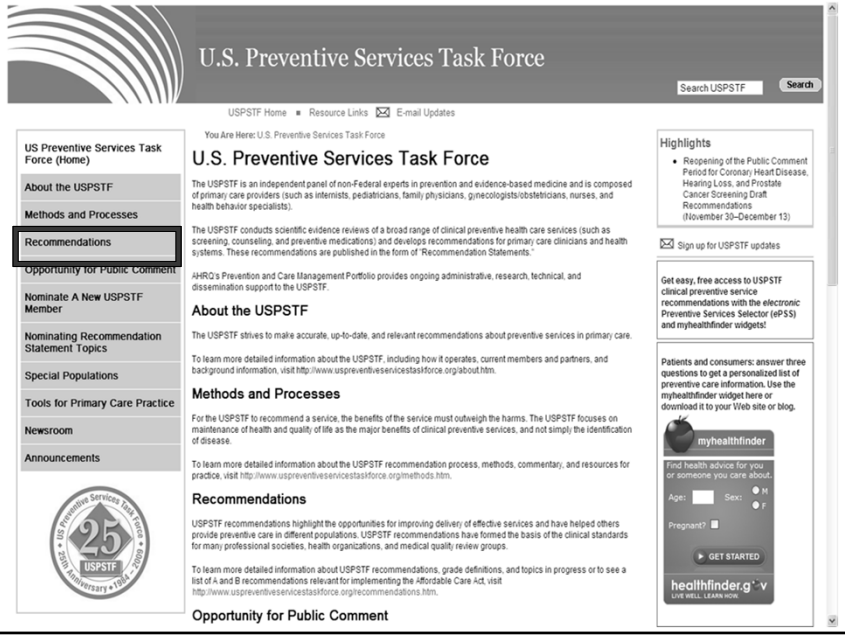
Condition	Age Range
HIV	A - up to age 65
Cervical Cancer Screening	D - over age 65
Skin Cancer Prevention Counseling	I - over age 24
Aspirin to prevent CV disease	A – up to age 75
Colorectal Cancer Screening	A - ages 50-75 only B - ages 75-85 D - ages over 85
Abdominal Aortic Aneurysm Screening	B- men smokers ages 65-70 C - nonsmoker men ages 65-70 D - women

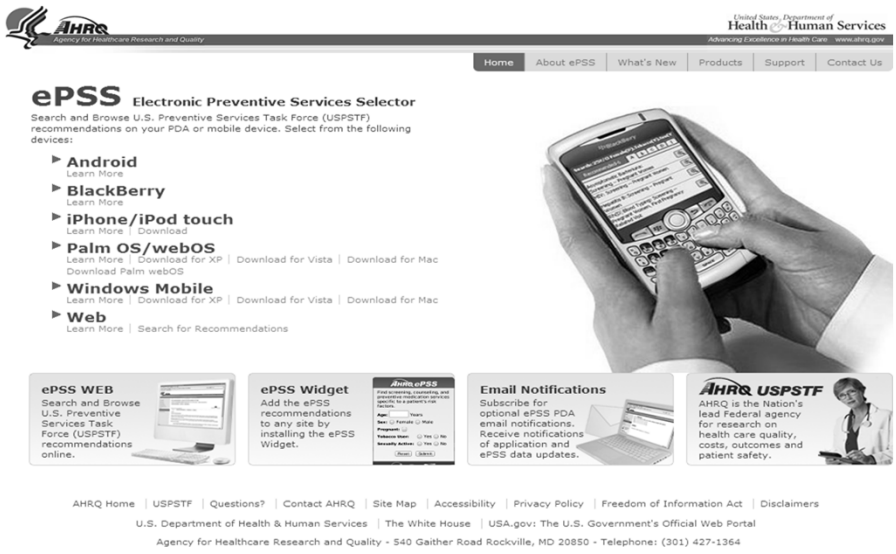
Questions about recent recommendations?

Keeping Current

- 70+ current recommendations
- Web site: www.uspreventiveservicestaskforce.org
- Electronic Preventive Services Selector
- Printed Pocket Guide

www.uspreventiveservicestaskforce.org

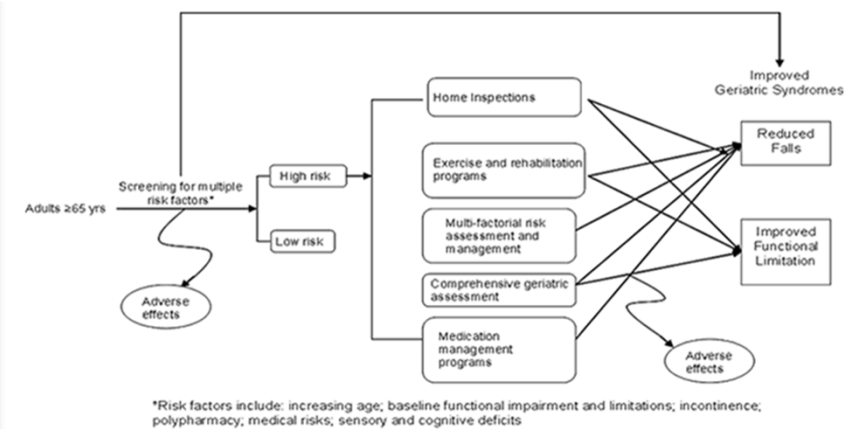




Challenges – Prevention for Older Adults

- Many diseases have multiple risk factors and causes.
- Interventions address multiple diseases and outcomes.
- Older adults are often excluded from studies.
- Important outcomes may not be studied or reported

Analytic Framework – Prevention of Falls



Attitudes & Values – Older Adults

- Value placed on receiving clinical preventive services
- Value potential benefits of clinical preventive services
- Attitudes about potential harms
- Understand the balance of risks and benefits
- Want to engage clinicians on shared decision making

High-Priority Evidence Gaps – Older Adults

2013 Report to Congress

- Screening for cognitive impairment
- Screening for mental and physical well-being
- Preventing falls
- Screening for vision and hearing problems
- Avoiding unintended harms of medical procedures and testing

Do USPSTF recommendations matter?

New law from the Affordable Care Act:

"A group health plan and a health insurance issuer offering group or individual health insurance coverage shall provide coverage for and shall not impose any cost sharing requirements for evidence-based items or services that have … a rating of A or B in the current recommendations of the USPSTF."

Issues in prevention

- Early diagnosis is not always better.
- Screened disease is different than diagnosed disease.
- All interventions – even tests – have harms.
- Clinical cascades start with simple first steps.
- Evidence of lack of effect ≠ Lack of evidence of effect

Thank you

William R. Phillips, MD, MPH
Theodore J. Phillips Endowed Professor in Family Medicine
University of Washington
Seattle, WA 98195
wphllps@uw.edu

http://www.uspreventiveservicestaskforce.org

U.S. Preventive Services TASK FORCE

References

Focus on Older Adults. USPSTF (2013)
http://www.uspreventiveservicestaskforce.org/tfolderfocus.htm

How To Read the New Recommendation Statement. USPSTF (2007)
http://www.uspreventiveservicestaskforce.org/uspstf07/methods/methupd.htm
Barton MB, Miller T, Wolff T, Petitti D, LeFevre M, Sawaya G, Yawn B, Guirguis-Blake J, Calonge N, Harris R. How to read the new recommendation statement: methods update from the U.S. Preventive Services Task Force. *Ann Intern Med* 2007;147:123-127.

How to Use I Statements in Clinical Practice [Videos]. USPSTF (2008)
http://www.uspreventiveservicestaskforce.org/ivideos.htm

References

Review on common syndromes in older adults related to prevention. (2011)
http://www.uspreventiveservicestaskforce.org/uspstf11/es87.pdf

Review on values of older adults related to the benefits and harms of preventive service. (2011) http://www.uspreventiveservicestaskforce.org/uspstf11/olderprev.pdf

Review on interventions to prevent functional decline in older adults. (2012)
http://www.uspreventiveservicestaskforce.org/uspstf11/es94.pdf

Sackett DL, Rosenberg WM, Gray JA, Haynes RB, Richardson WS. Evidence based medicine: what it is and what it isn't. BMJ. 1996 Jan 13;312(7023):71-2.

References

The USPSTF - An Evidence-Based Prevention Resource for Nurse Practitioners. (2009) http://www.uspreventiveservicestaskforce.org/uspstf09/epbnursep/epbnursep.htm
Trinite T, Loveland-Cherry C, Marion L. U.S. Preventive Services Task Force: An Evidence-based Prevention Resource for Nurse Practitioners. *Journal of the American Academy of Nurse Practitioners* 21(2009):301-306.

Individualizing Cancer Screening in Older Adults - A Narrative Review and Framework for Future Research.
(2012)http://www.uspreventiveservicestaskforce.org/uspstf12/cancerolder.htm
Eckstrom E, Feeny DH, Walter LC, Perdue LA, Whitlock EP. Individualizing cancer screening in older adults: a narrative review and framework for future research. *J Gen Intern Med* 2012; 25 Sep.

Resources

Electonic Preventive Services Selector (ePSS)
http://epss.ahrq.gov/PDA/index.jsp

What free screenings does the ACA require? amednews.com (2013)
20130812/government/130809971

National Guideline Clearing House – AHRQ
http://www.guideline.gov