



PSA: Screening for Prostate Cancer in Older Adults

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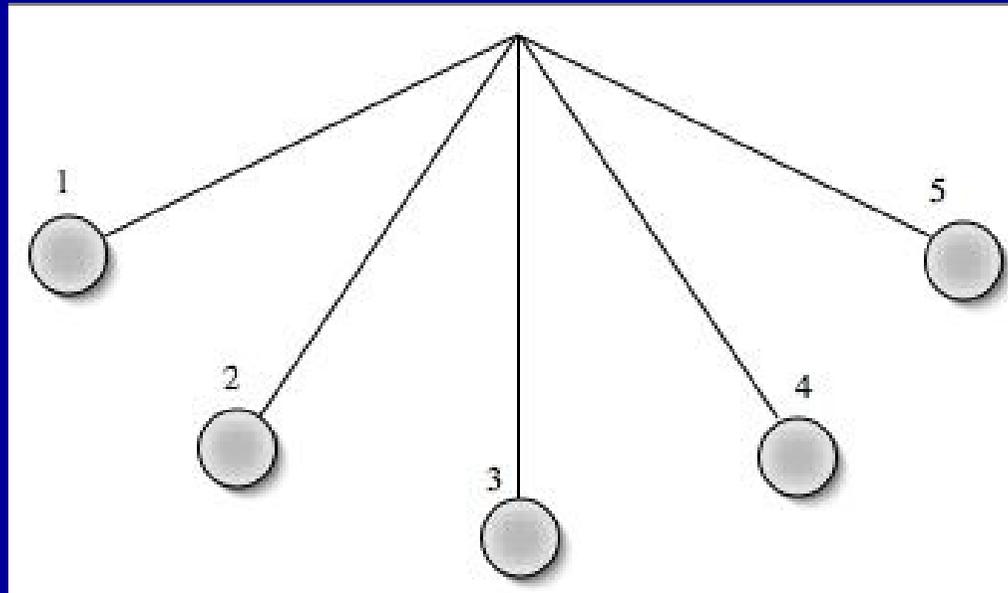


No Disclosures

General Overview

- Cases – Tale of Two Older Men
- Guidelines
- Controversy
- Screening Trials
- Decision Making
- Practical Approach
- Cases Answered

The PSA Pendulum



Screen

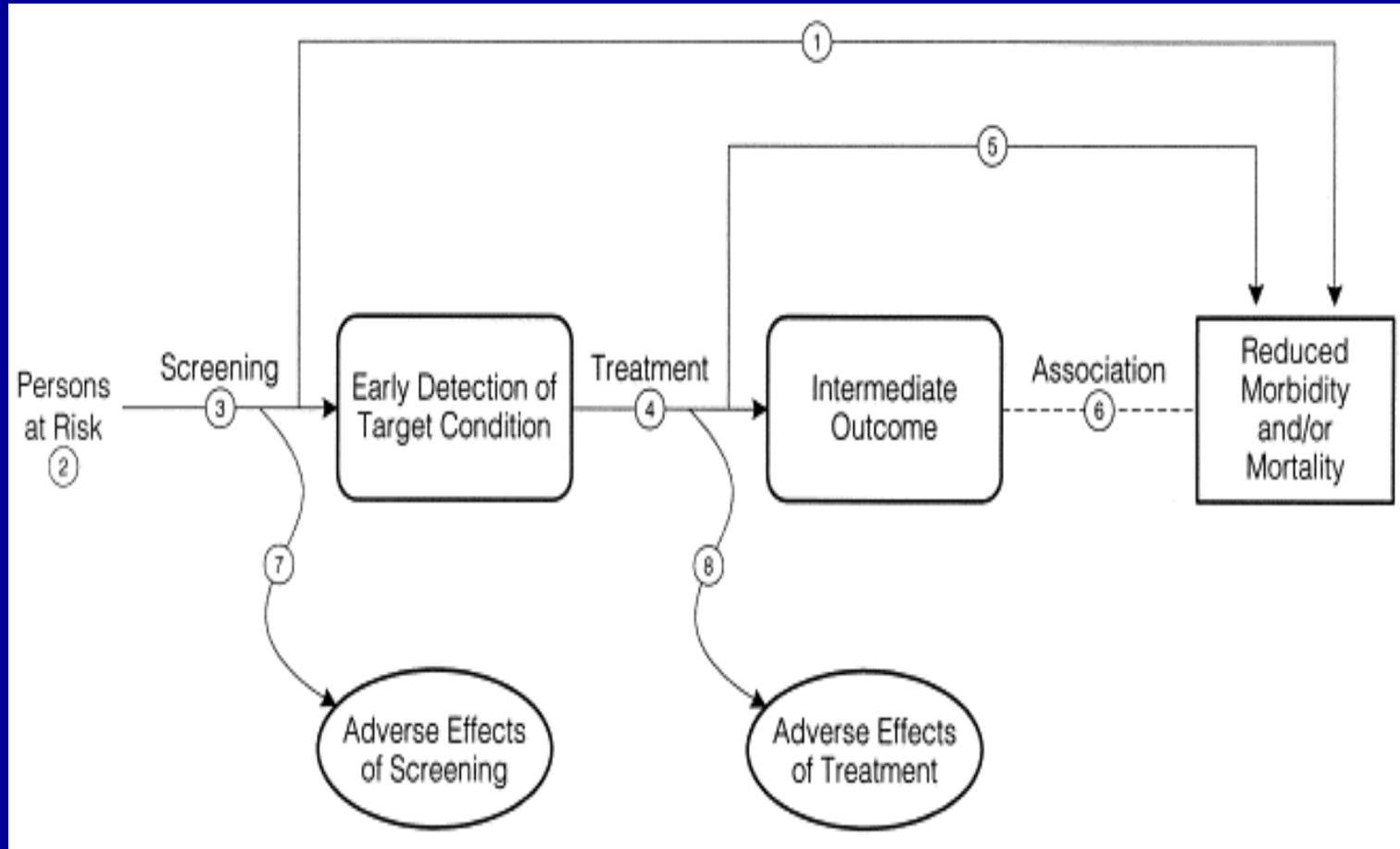
Don't Screen

Screen Some

Cases

- 75 y.o. man on an MVI presents for routine visit. He recently completed a 5K run to celebrate his birthday and says, “I’m in excellent health, doc.” His brother died from cancer. He heard about the “newest guidelines” for screening saying he was “too old” for it. He wants a PSA.
- 70 y.o. man with HTN, OA, CHF (EF = 35%), and mild-moderate Alzheimer’s. Because of his urinary incontinence and a discussion with friends, his wife wants a PSA checked.

Screening Principles Reminder



<http://www.ahrq.gov/clinic/ajpmsuppl/harris1.htm#fig1>

Media Reports



The New York Times



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TISSUE- AND SPECIES-SPECIFIC ANTIGENS OF NORMAL HUMAN PROSTATIC TISSUE¹

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Screening men for PSA has become “a hugely expensive public health disaster.”



“Routine screening for prostate cancer...is not recommended. Patients who request screening should be given objective information about the potential benefits and harms of early detection and treatment.”

“[The best approach is] to limit screening to men with a life expectancy greater than 10 years.”

U.S. Preventive Services Task Force, Second Edition, 1996

“...the current evidence is insufficient to assess the balance of benefits and harms of prostate cancer screening in men younger than 75...a clinician should not order the PSA test without first discussing with the patient the potential but uncertain benefits and the known harms...men should be informed of the gaps in the evidence and should be assisted in considering their personal preferences...”

U.S. Preventive Services Task Force, Oct. 25, 2010

Screening for Prostate Cancer — The Controversy That Refuses to Die

Michael J. Barry, M.D.

N ENGL J MED 360;13 NEJM.ORG MARCH 26, 2009



Current Guidelines

- **Most Aggressive**

- American Cancer Society (2014): after 50, Discuss with MD
- <http://www.cancer.org/cancer/prostatecancer/moreinformation/prostatecancerearlydetection/prostate-cancer-early-detection-toc>

- **Moderate**

- AUA (May 2013): 55 – 69, Discuss with MD; 70+ No screening
- http://www.auanet.org/advnews/press_releases/article.cfm?articleNo=290

- **Least Aggressive**

- USPSTF (May 2012): Recommend Against (May 2012)
- http://www.auanet.org/advnews/press_releases/article.cfm?articleNo=290

Two Recent Randomized Screening Trials

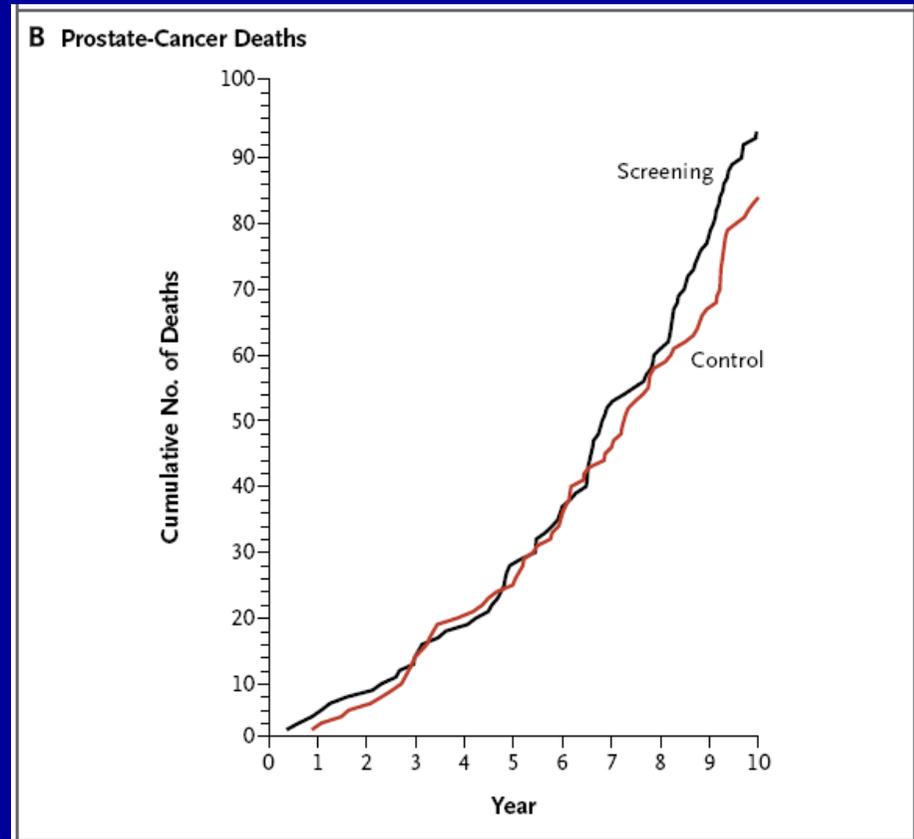
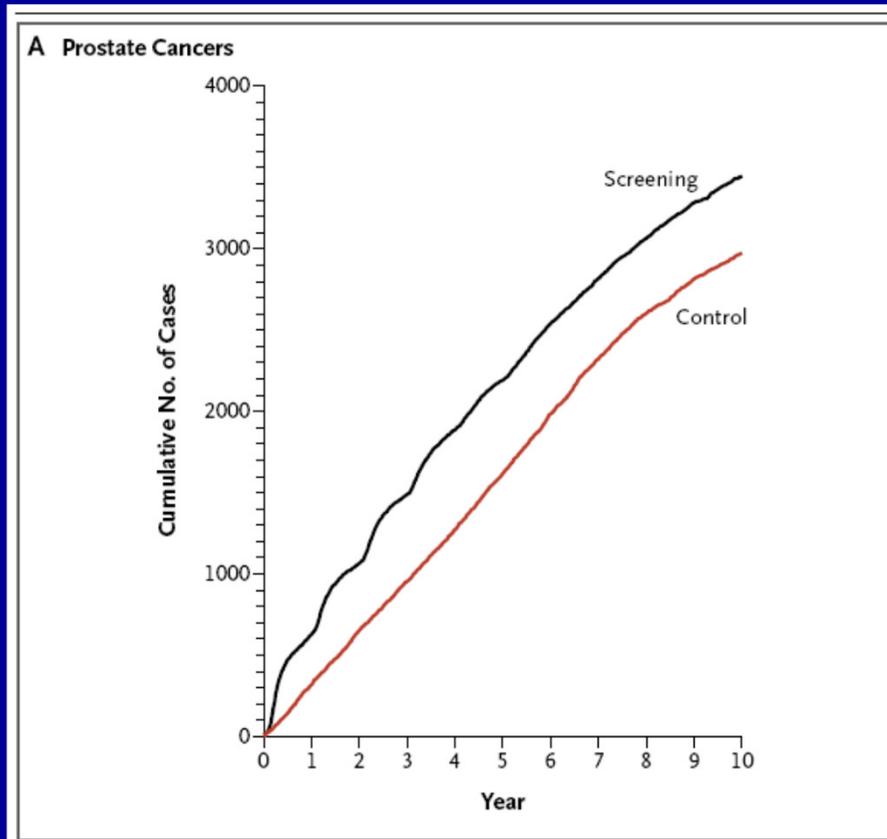


- **Prostate, Lung, Colorectal, and Ovarian (PLCO) Trial**
 - American
 - Annual screening
 - Ages 55-74
- **European Randomized Study of Screening for Prostate Cancer (ERSPC)**
 - European
 - Screening every 2-4 years
 - Ages 50-74

PLCO (U.S. Trial)

- 77,000 men
- Annual screening
- PSA and DRE vs no screening
 - Clinicians choice
 - Cross-over possible
- 10 years of follow-up

PLCO: cancer-specific deaths



PLCO:

Conclusions & Caveats



- No differences in disease-specific mortality
- 40-50% of “controls” had screening vs. 85% of “screening” group
- No entry for men over 75 years
- **Recommendation:** Don’t screen
- **Caveats:**
 - Much screening in “control” group: underpowered
 - Annual screening vs less frequent intervals

ERSPC: European

- 182,000 men
- Screened every 2-4 years
- Variable follow-up
- Mean follow-up of 9 years
- Nobody over 74 enrolled

ERSPC: Prostate Cancer Deaths



Table 2. Death from Prostate Cancer, According to the Age at Randomization.*

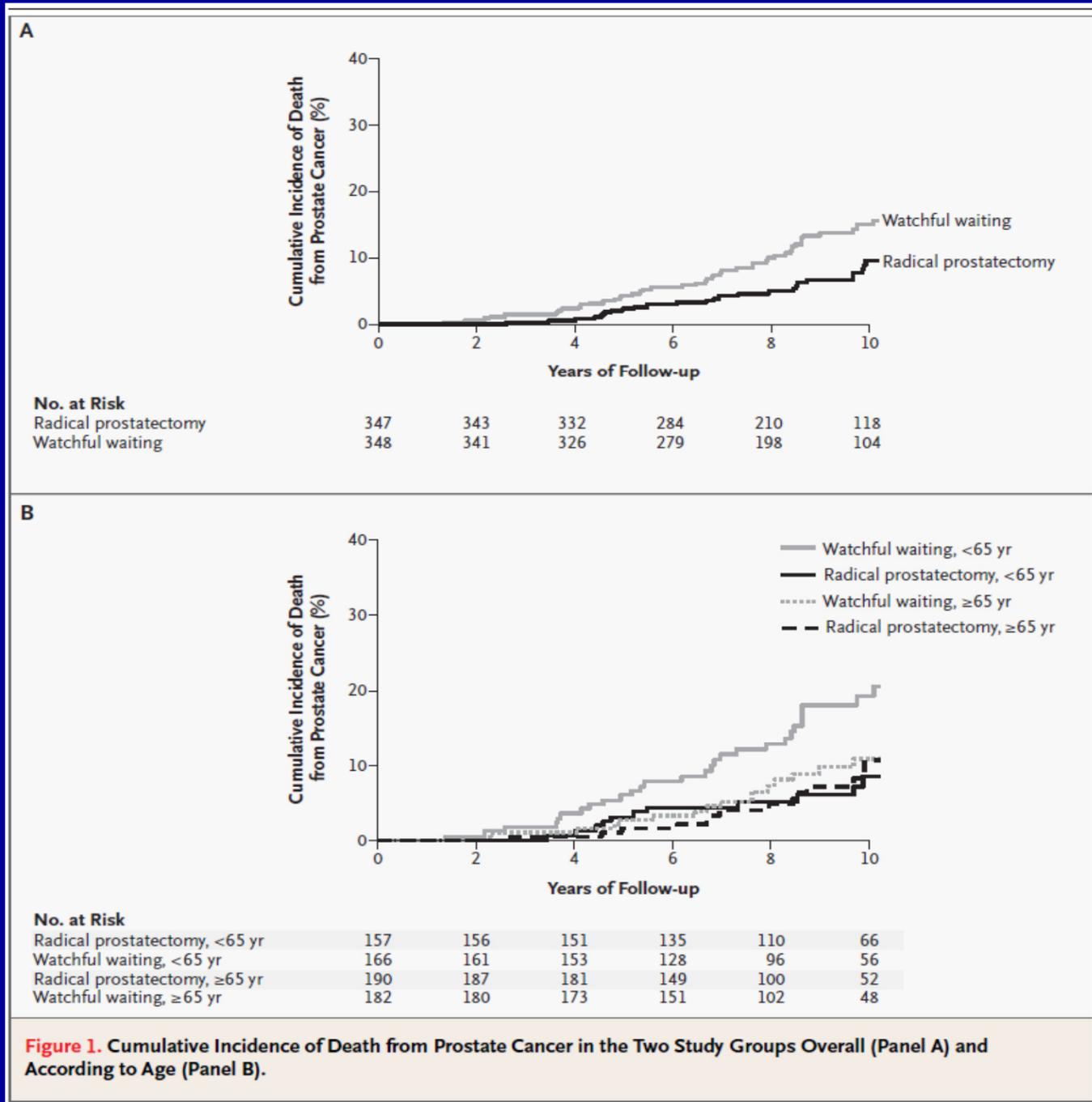
Age at Randomization	Screening Group		Control Group		Rate Ratio (95% CI) [†]
	No. of Deaths	Person-Yr (Death Rate per 1000 Person-Yr)	No. of Deaths	Person-Yr (Death Rate per 1000 Person-Yr)	
All subjects	261	737,397 (0.35)	363	878,547 (0.41)	0.85 (0.73–1.00)
Age group					
50–54 yr	6	55,241 (0.11)	4	53,734 (0.07)	1.47 (0.41–5.19)
55–59 yr	60	316,389 (0.19)	102	402,062 (0.25)	0.73 (0.53–1.00)
60–64 yr	76	191,542 (0.40)	95	221,113 (0.43)	0.94 (0.69–1.27)
65–69 yr	78	135,470 (0.58)	129	162,410 (0.79)	0.74 (0.56–0.99)
70–74 yr	41	38,755 (1.06)	33	39,228 (0.84)	1.26 (0.80–1.99)

ERSPC Conclusions

- “20% decrease in disease-specific mortality”
- Screening every 2-4 years
- Number Needed to Screen: 1 fewer death per 1,410 screened men
- No entry for men over 75
- “Recommendation”: Screening reduced disease-specific mortality, but high rate of “overdiagnosis” must be considered.

Why 10 years of Life Expectancy?

Why 75 years?



Leading Causes of Death, Older Men with Prostate Cancer, by Grade

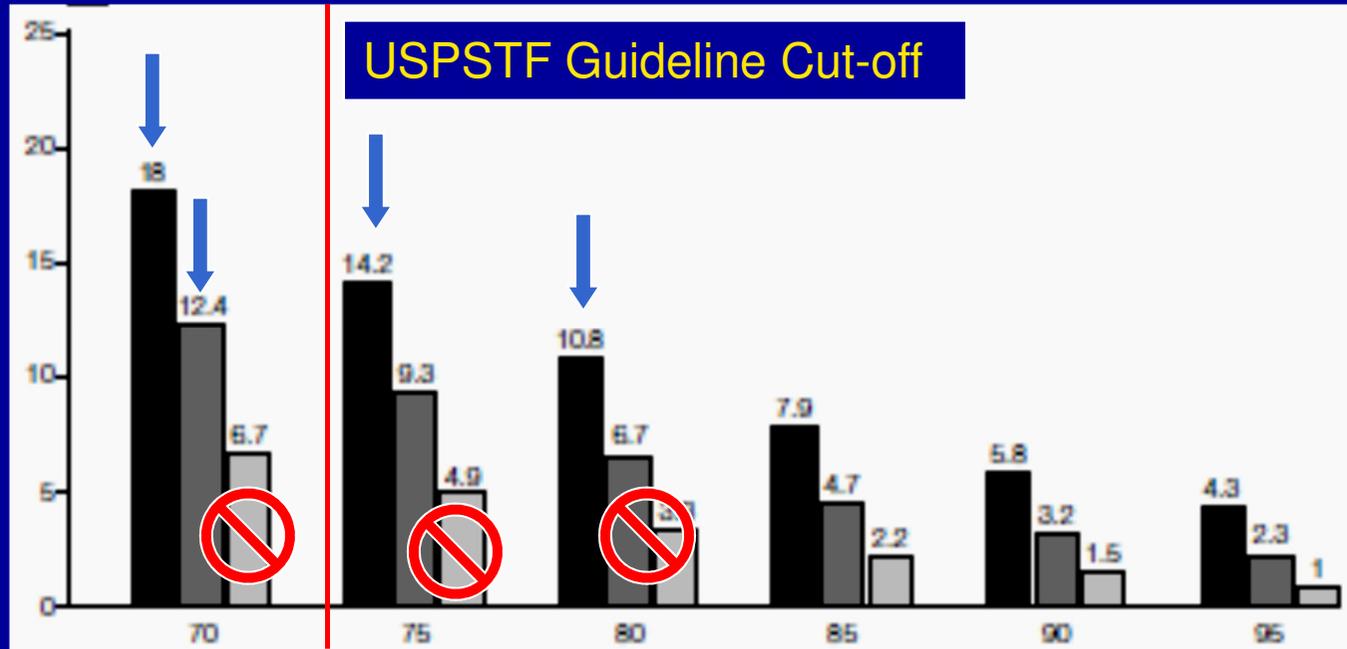
Cause of Death	All Patients	T1 or T2 Stage	
		Low or Moderate Grade	Poorly Differentiated or Undifferentiated
All patients	100	59.1	13.3
Overall 5-year mortality	25.94	18.66	28.33
Cause of death			
Prostate cancer	7.73	2.12	9.78
Other cancers	3.83	3.70	3.77
Cardiovascular disease	7.16	6.40	7.26
Cerebrovascular disease	1.27	1.15	1.36
Hypertension	0.13	0.11	0.12
Chronic obstructive pulmonary disease	1.17	1.03	1.30
Diabetes mellitus	0.45	0.40	0.56
Renal disease	0.19	0.16	0.21
Liver disease	0.12	0.11	0.15
Influenza or pneumonia	0.74	0.60	0.72
Other infection	0.24	0.21	0.24
Alzheimer's disease	0.17	0.14	0.17
Accident	0.36	0.37	0.30
Suicide	0.16	0.13	0.20

Ketchandji et al, Cause of Death in Older Men After the Diagnosis of Prostate Cancer, JAGS, 2008.

Remaining Life Expectancy by Quartile, Older Men



RLE



776,742 Men in U.S.

Age

JAMA[®]

Online article and related content current as of October 25, 2010.

Cancer Screening in Elderly Patients: A Framework for Individualized Decision Making

Louise C. Walter; Kenneth E. Covinsky

JAMA. 2001;285(21):2750-2756 (doi:10.1001/jama.285.21.2750)

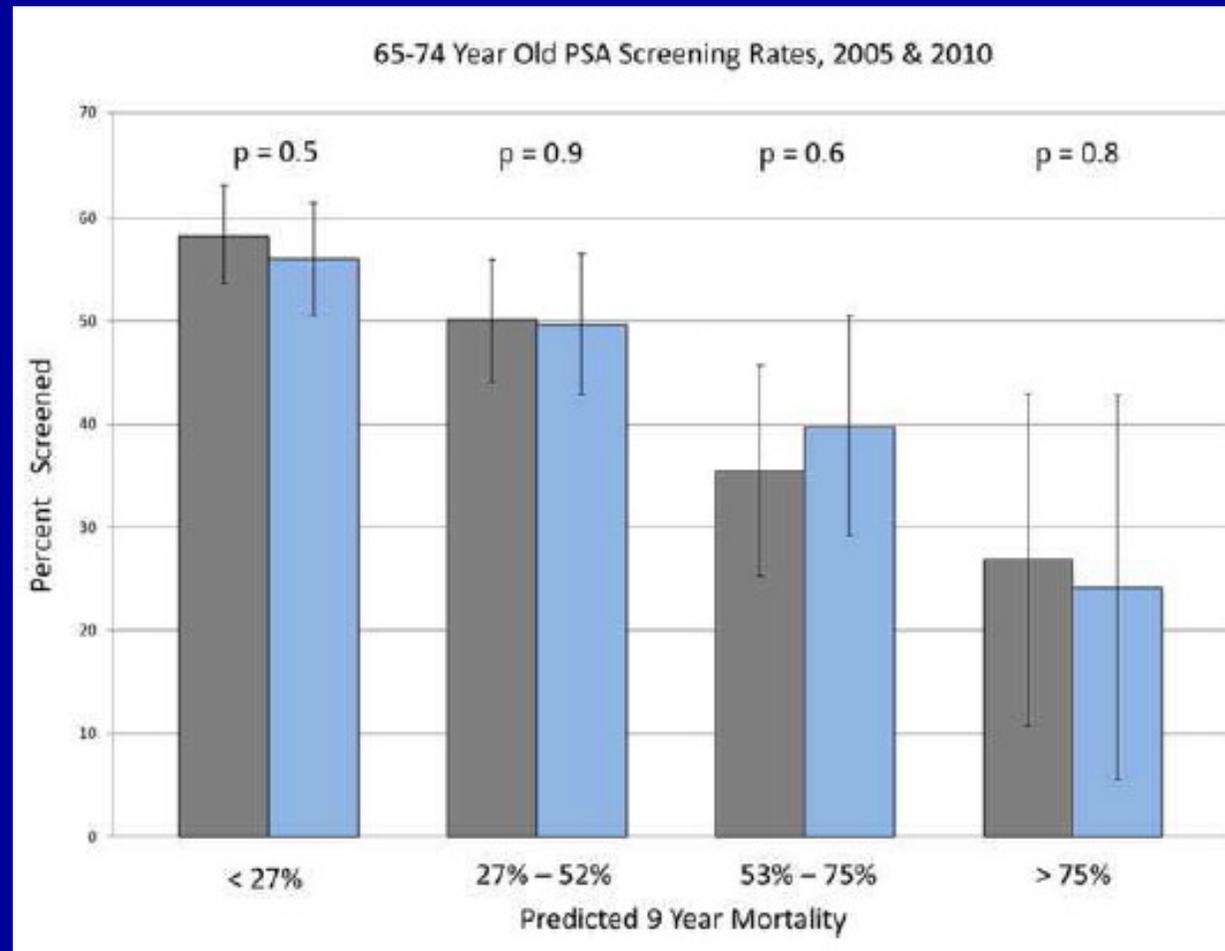
<http://jama.ama-assn.org/cgi/content/full/285/21/2750>

Life Expectancy Estimation

- Physician Estimate – Accuracy & Caveats
 - Over-estimate patient RLE
 - Over-report estimate to patient on overestimate
 - Dislike offering prognosis
- Patients on physicians:
 - 75% want MD to discuss life-expectancy
 - 64% disagreed/strongly disagreed with the statement "I feel that my main doctor can correctly estimate how long I might live".

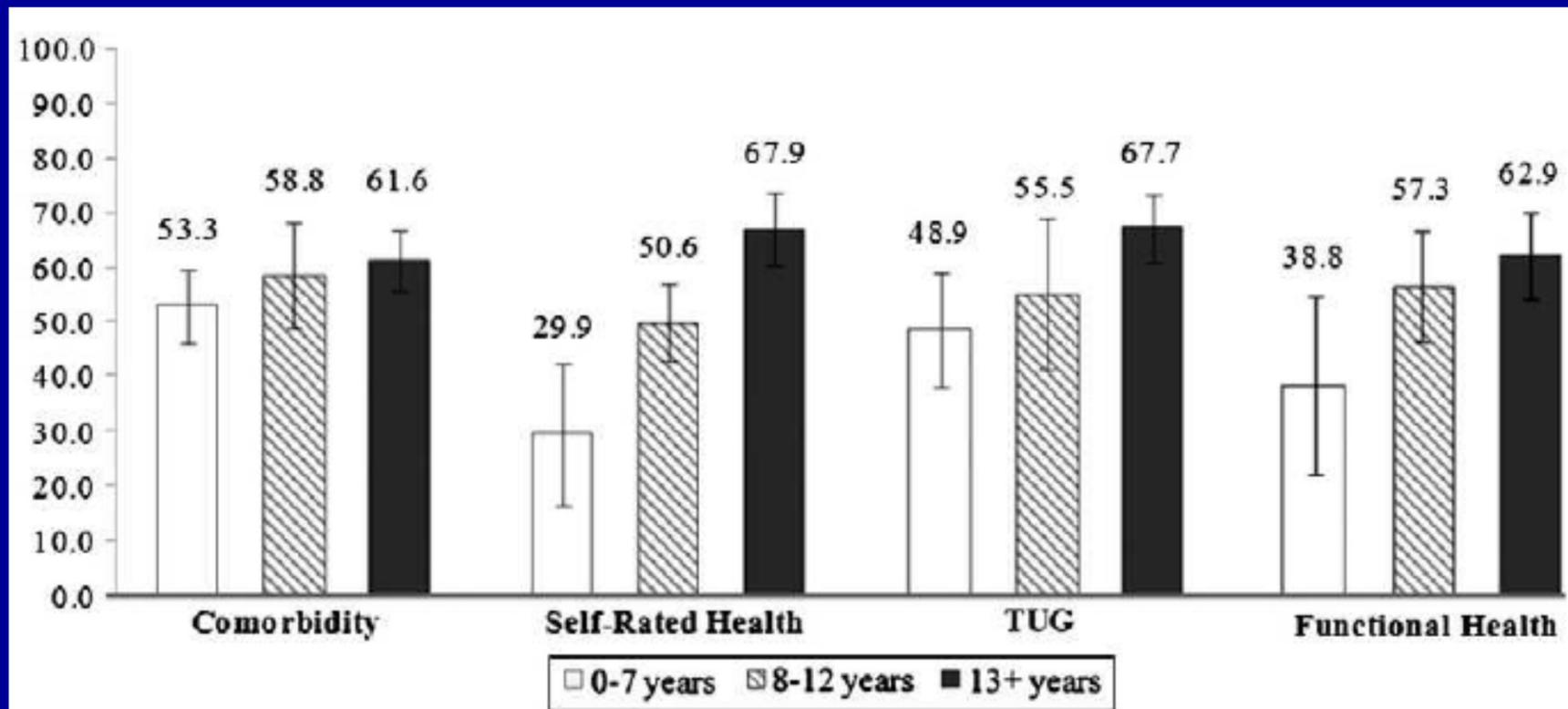
–Christakis N, Death Foretold, 1999; Kistler C et al. Older adults' beliefs about physician-estimated life expectancy: a cross-sectional survey; BMC Fam Prac, 2006.

Life-expectancy Based Screening?



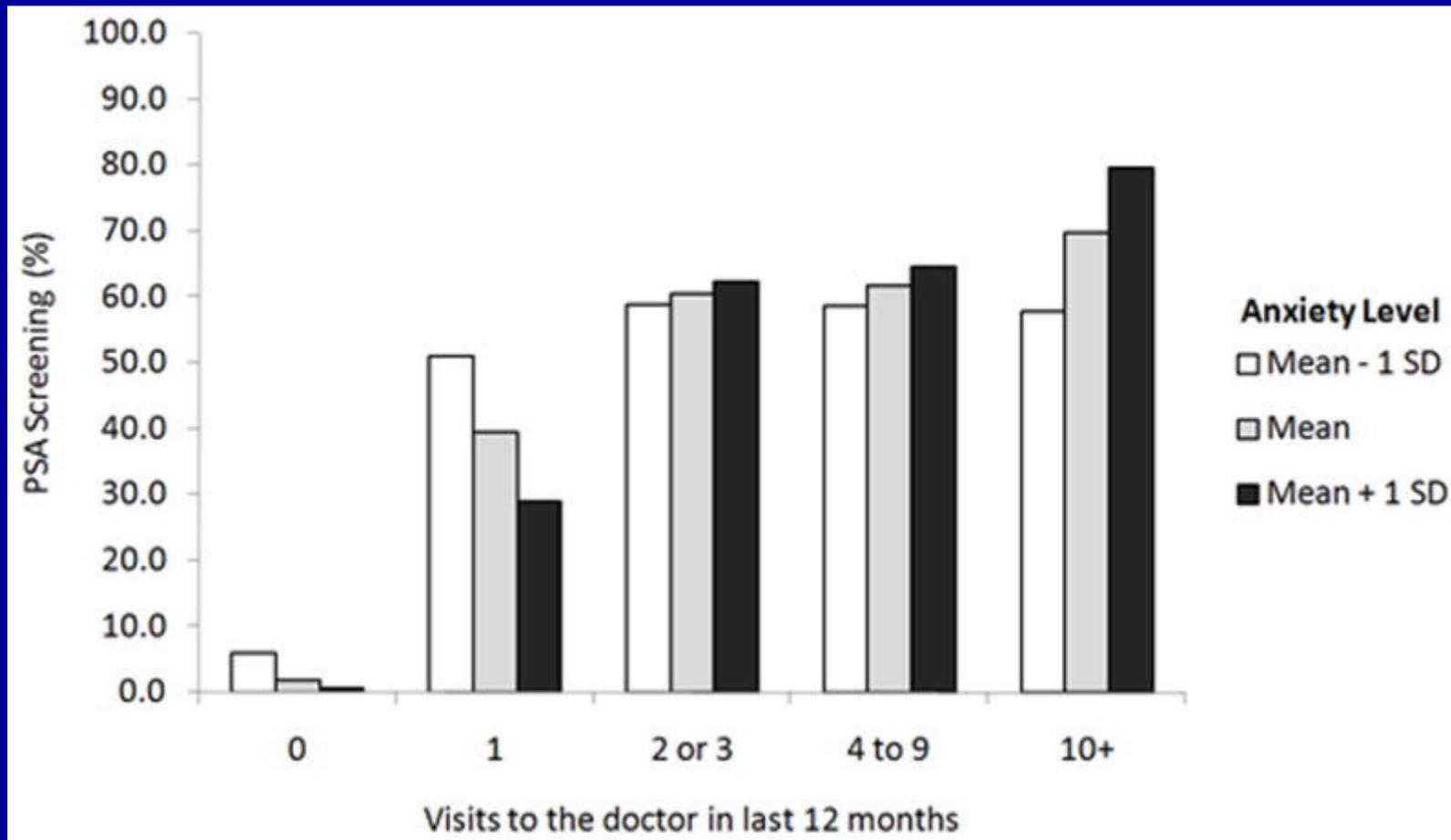
Drazer et al, Cancer, 2014.

Geriatric Assessment Measures



Kotwal, Mohile, Dale, JGO, 2012

Emotional Influences



Kotwal, Mohile, Schumm, Dale, Med Care, 2013

Framework for Screening for Prostate Cancer



- **Possible Benefits**
 - Disease-specific mortality improved
 - Must screen 1,400 men to prevent 1 death
 - 48 cases detected for 1 PCa death prevented
 - Must have at least a 10 year life expectancy
- **Possible Harms**
 - Toxicity from screening procedure
 - Overtreatment likely if discovered
 - Anxiety
- **Preference/Values/Policies**
 - Many men (or partners) still want screening
 - Less want screening when given more information
 - Institutional policies and incentives

Practical Guide



- **Default:** Don't screen
- **Determine baseline risk for prostate cancer**
 - Race (African American > White > Asian)
 - Family history of PCa in first degree relatives < 65
- **Determine if expected RLE is over 10 years**
 - Self-reported health status
 - Geriatric assessment: function, cognition
 - Comorbidity: heart disease (treat them for it!)
- **Discuss follow-up for positive test with patients up-front**
 - Biopsy
 - Treatments: surgery, XRT, androgen deprivation, surveillance
 - Treatment consequences
- **Assess values and preferences**

Case Recommendations



Case 1: 75 yo runner with a family history of prostate cancer

RLE: health status “excellent”: > 10 years

Risk group: higher risk (AA, fam hx)

Benefits: likely mortality/morbidity benefit from treatment

Harms: biopsy, treatment side effects

Preferences: Wants screening

Recommendation: **Screen**

Case 2: 70 yo with CHF and mild-moderate dementia

RLE: < 7 years

Risk Group: normal

Benefits: mortality benefit unlikely

Harms: biopsy, treatment side effects

Preferences: Wants screening

Recommendation: **No Screen**