Screening for Prostate Cancer:

Sharing the Decision

These Organizations Recommend a Form of Shared Decision Making for Prostate Cancer Screening

- American Academy of Family Physicians
- American Cancer Society
- American College of Physicians/American Society of Internal Medicine
- American College of Preventive Medicine
- American Medical Association
- American Urological Association
- U.S. Preventive Services Task Force

Today's Goals

- To discuss what is known about the risk of prostate cancer and its natural history.
- To discuss what is known about the potential benefits and potential harms of screening for and treating prostate cancer.
- To discuss how primary care clinicians can use shared decision making with their patients in deciding whether to screen for prostate cancer.

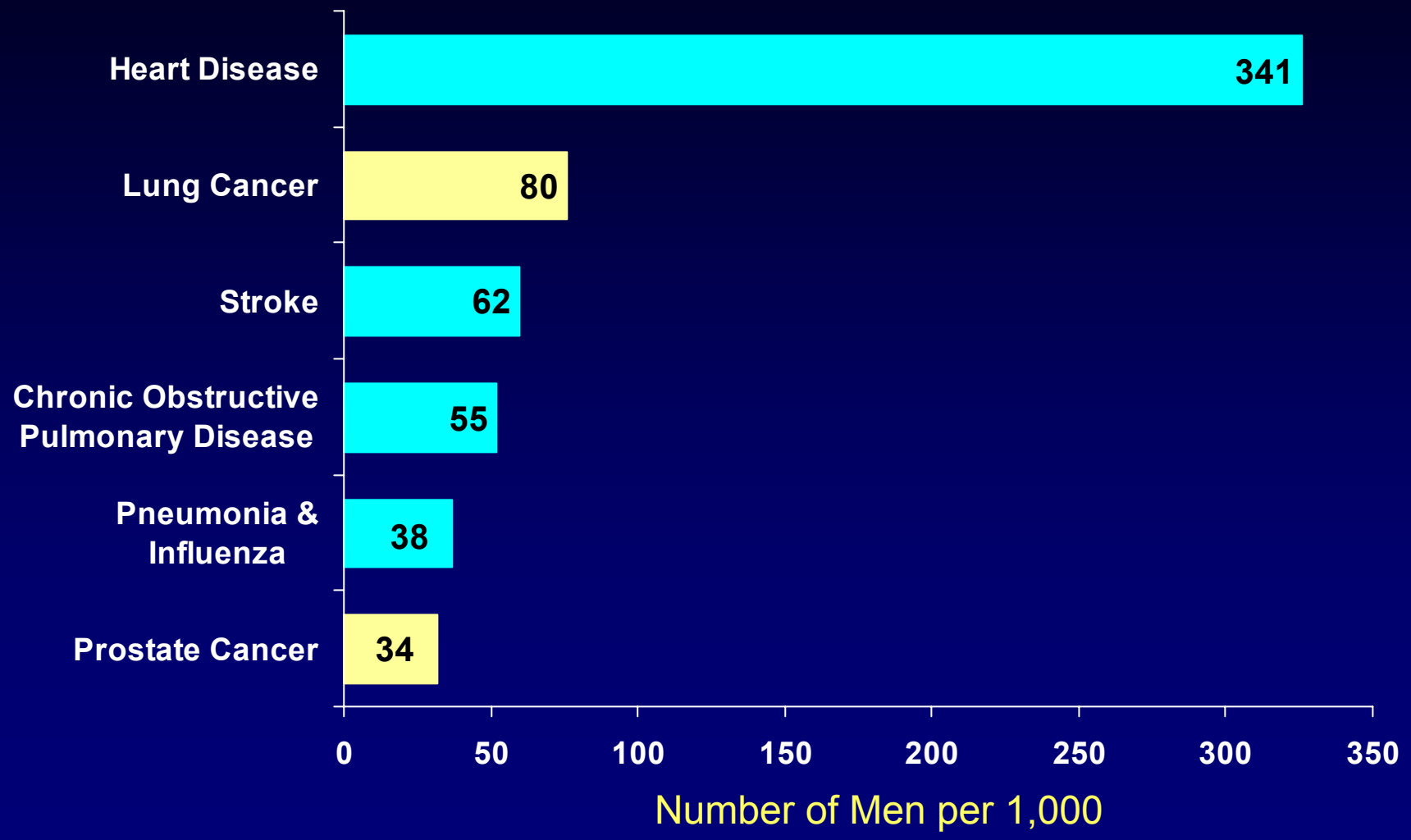
Goal 1:

To discuss what is known about the risk of prostate cancer and its natural history.

Risk of Prostate Cancer in 40 year old U.S. men, to End of Life (per 1,000 men)

Risk of Diagnosis	Risk of Death
164	34

Risk of Death for 40 year old U.S. Men, to End of Life, by Leading Causes



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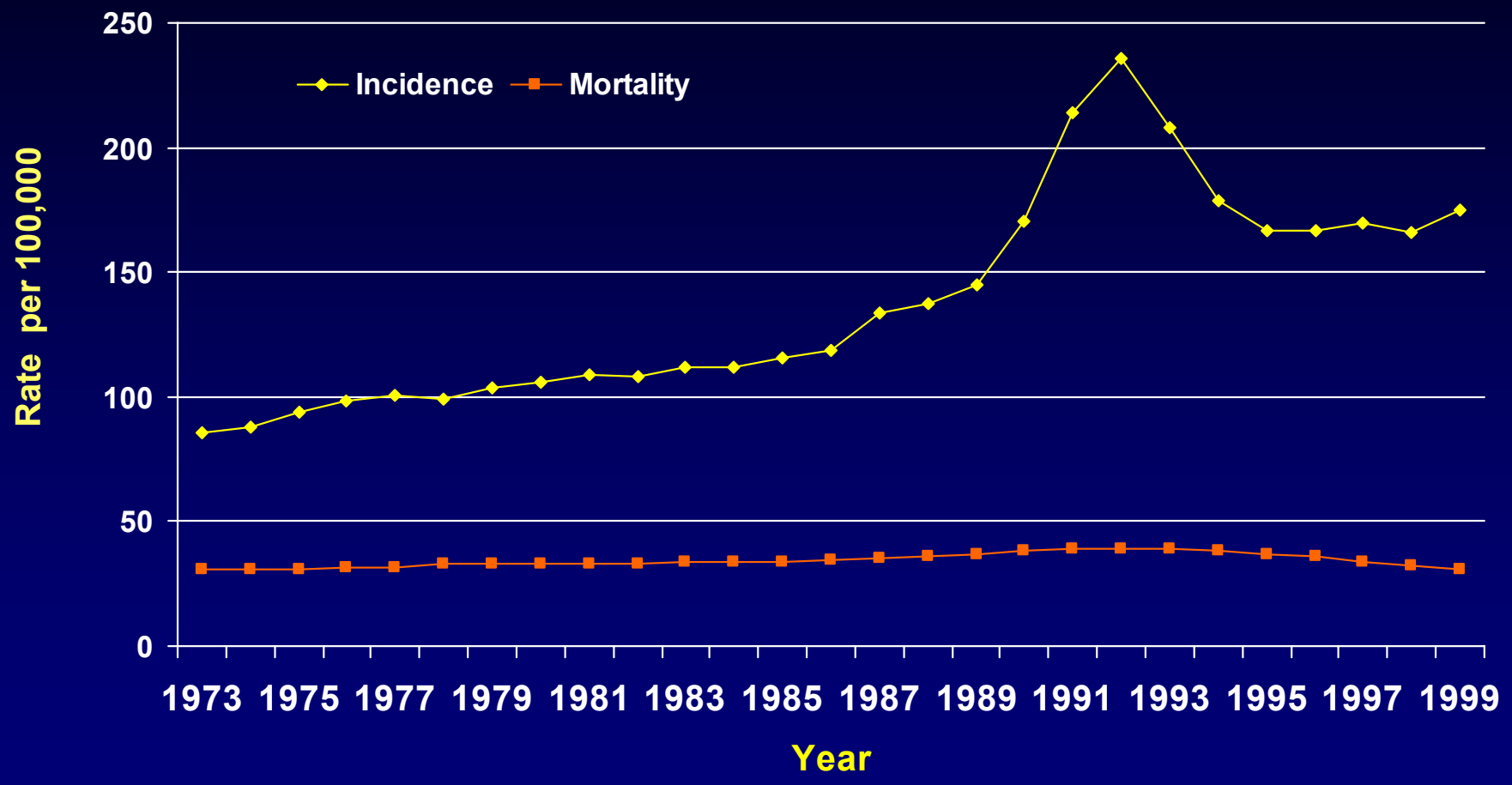
Prostate Cancer Trends in Incidence and Mortality, 1973–1999



Risk of Death From Prostate Cancer by Age and by Race/Ethnicity

	Risk during the next 15 years (per 1,000 men)	
Race/Ethnicity	At age 50	At age 65
All	2	16
African American	5	34
American Indian & Alaska Native	2	9
Asian & Pacific Islanders	1	7
Hispanic	1	12
White	2	14

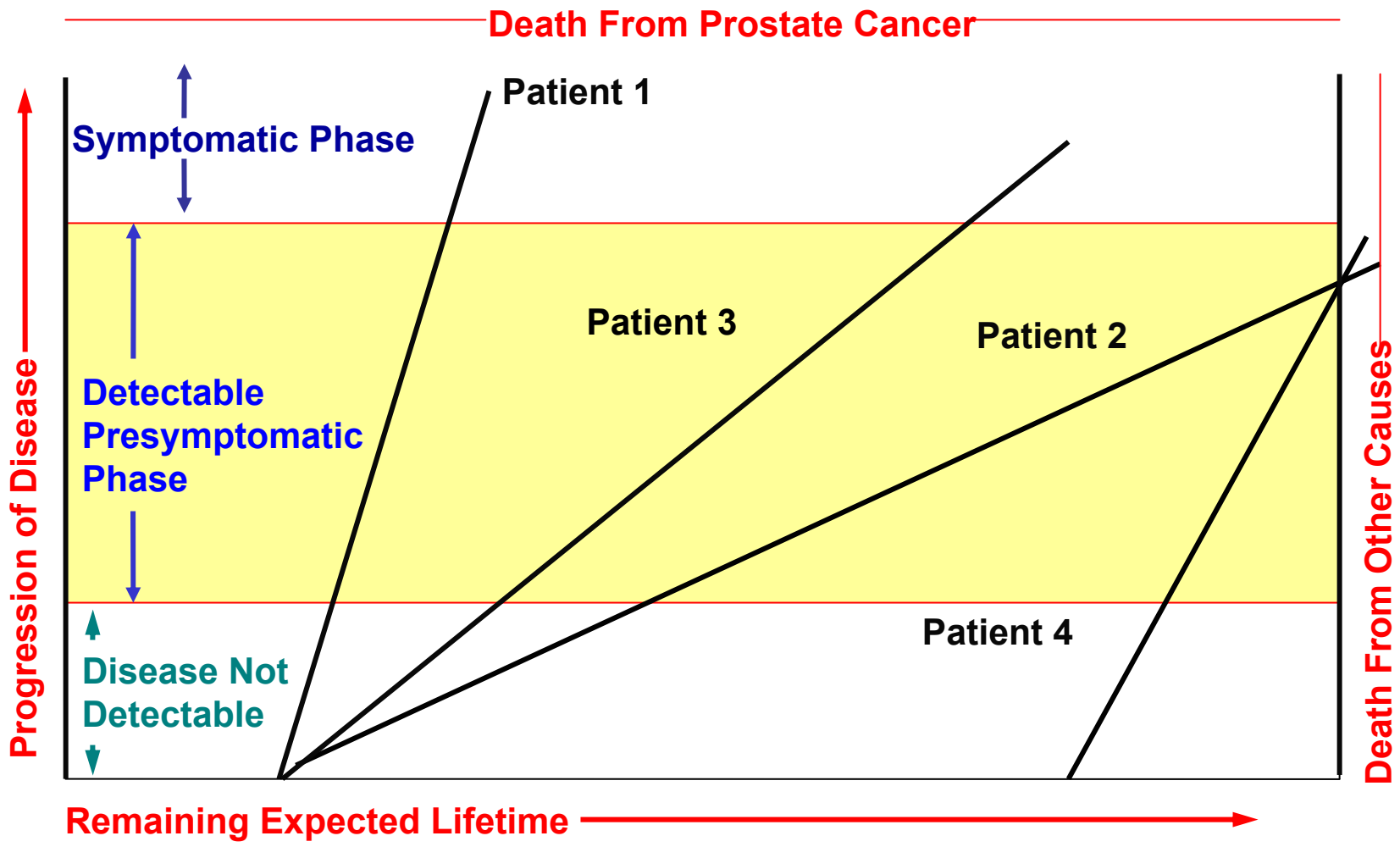
Risk of Prostate Cancer Diagnosis by Age and by Race/Ethnicity

	Risk during the next 15 years (per 1000 men)	
Race/Ethnicity	At age 50	At age 65
All	50	117
African American	76	163
American Indian & Alaska Native	14	35
Asian & Pacific Islanders	18	84
Hispanic	29	94
White	44	113

Natural History of Prostate Cancer

- Prostate cancer is biologically heterogeneous.
- Some prostate cancers grow slowly and never cause symptoms.
- Other prostate cancers are fast growing and metastasize quickly.
- Other types grow at a modest pace.

Prostate Cancers Vary in Their Natural Histories



Preventing Prostate Cancer

- Known risk factors for developing prostate cancer:
  - Age.
  - Race/ethnicity.
  - Family history of prostate cancer.
- No agreement on modifiable risk factors.

Summary

- Prostate cancer is a leading cause of death.
- Risk increases with age and is higher in some racial/ethnic groups and in men with positive family histories.
- Prostate cancer is heterogeneous; some cancers are fatal, others are not.
- There are no known strategies for preventing the development of prostate cancer.

Goal 2:

To discuss the benefits and harms of prostate cancer screening and treatment.

Key Issues of Screening and Early Treatment

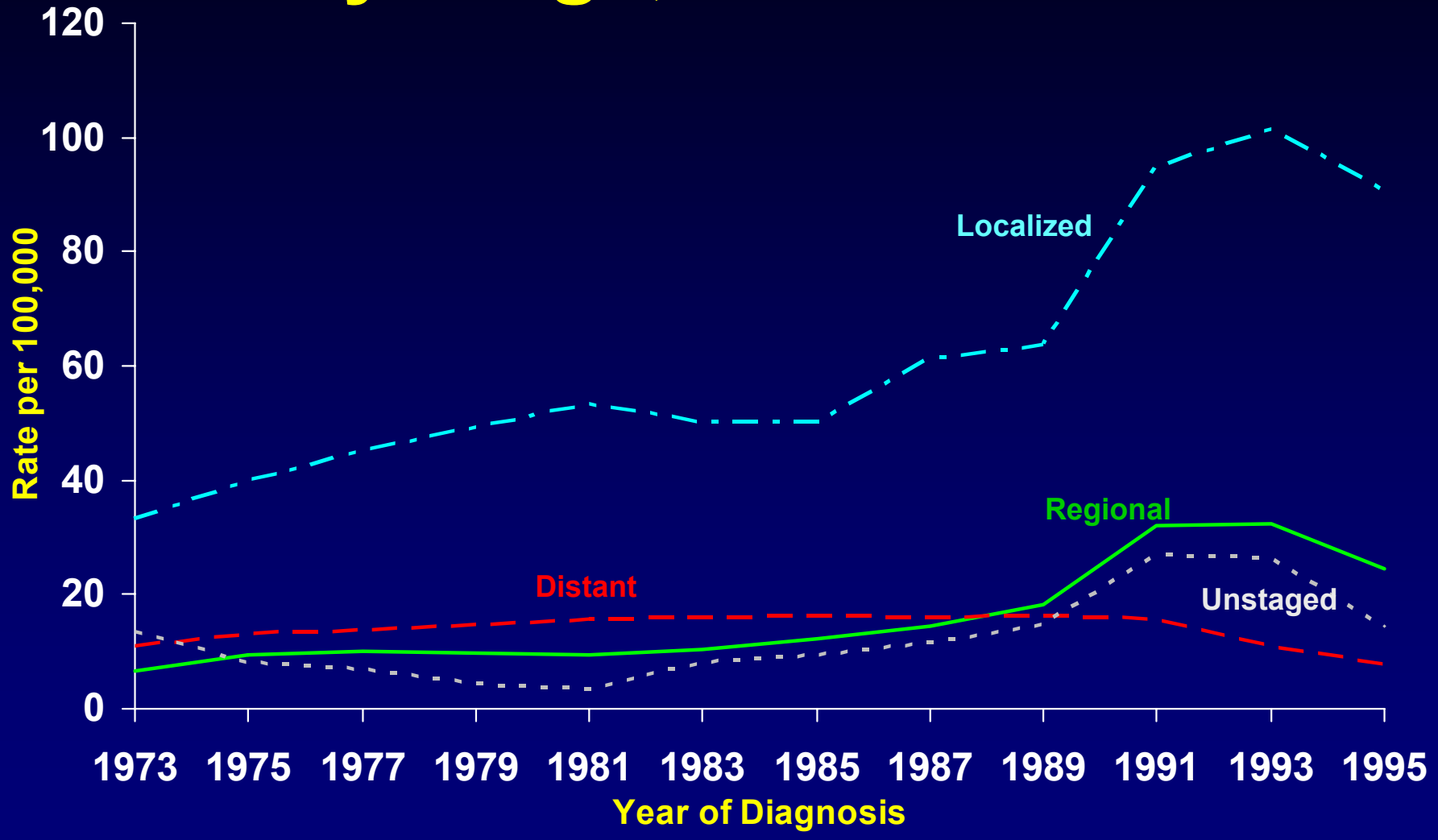
- Does screening extend men's lives (are there benefits)?
- Does screening lead to health problems (are there harms)?
- Do the benefits outweigh the harms?

What Are the Potential Benefits of Screening?

Three issues to consider:

- Does PSA testing lead to earlier detection?
- Does earlier treatment help men live longer?
- What happens to mortality rates as screening rates increase?

Prostate Cancer Incidence Rates by Stage, 1973–1995



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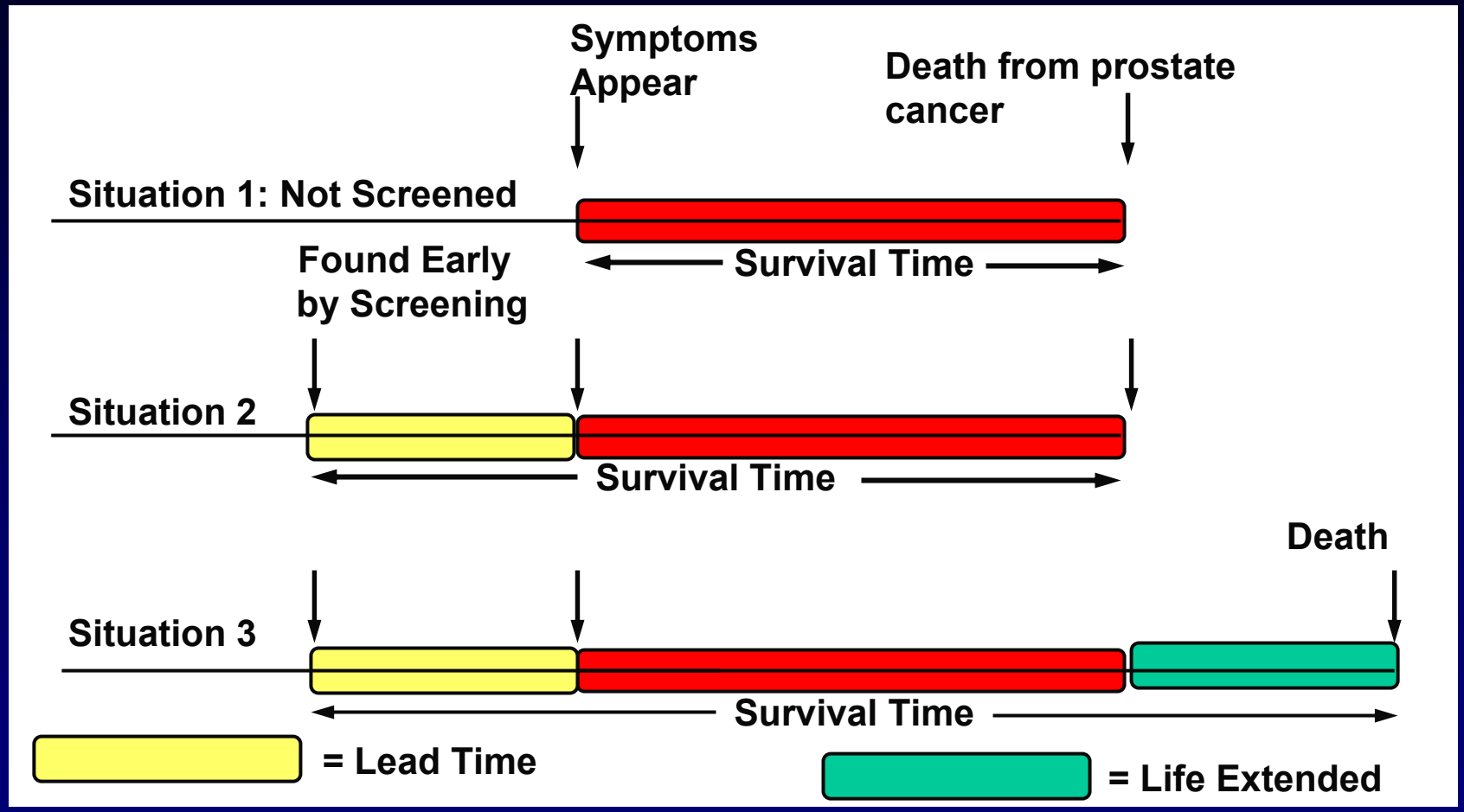
Finding Prostate Cancer Earlier Is Not Enough



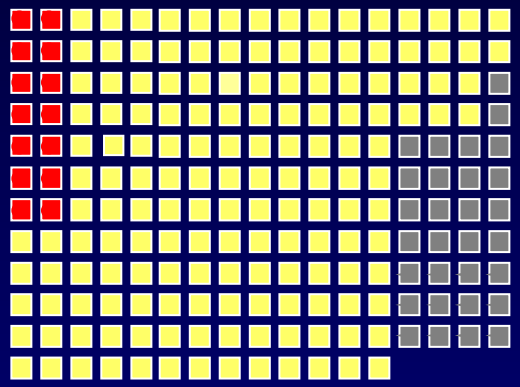
Can We Treat Early-Stage Prostate Cancer Effectively?

- After treatment for early-stage prostate cancer, men have excellent survival.
- Men with early-stage prostate cancer who choose watchful waiting also have excellent survival.
  - A study of 800 men who chose watchful waiting found the 10-year disease-specific survival to be 87%.

Risk of Mortality From Prostate Cancer Among Men in a Randomized Trial

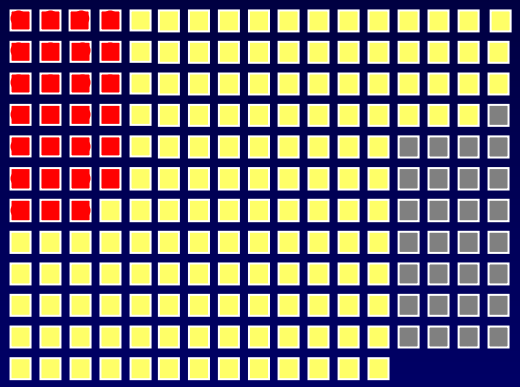
Average age 65 years at entry; 8 years followup

PROSTATE REMOVED



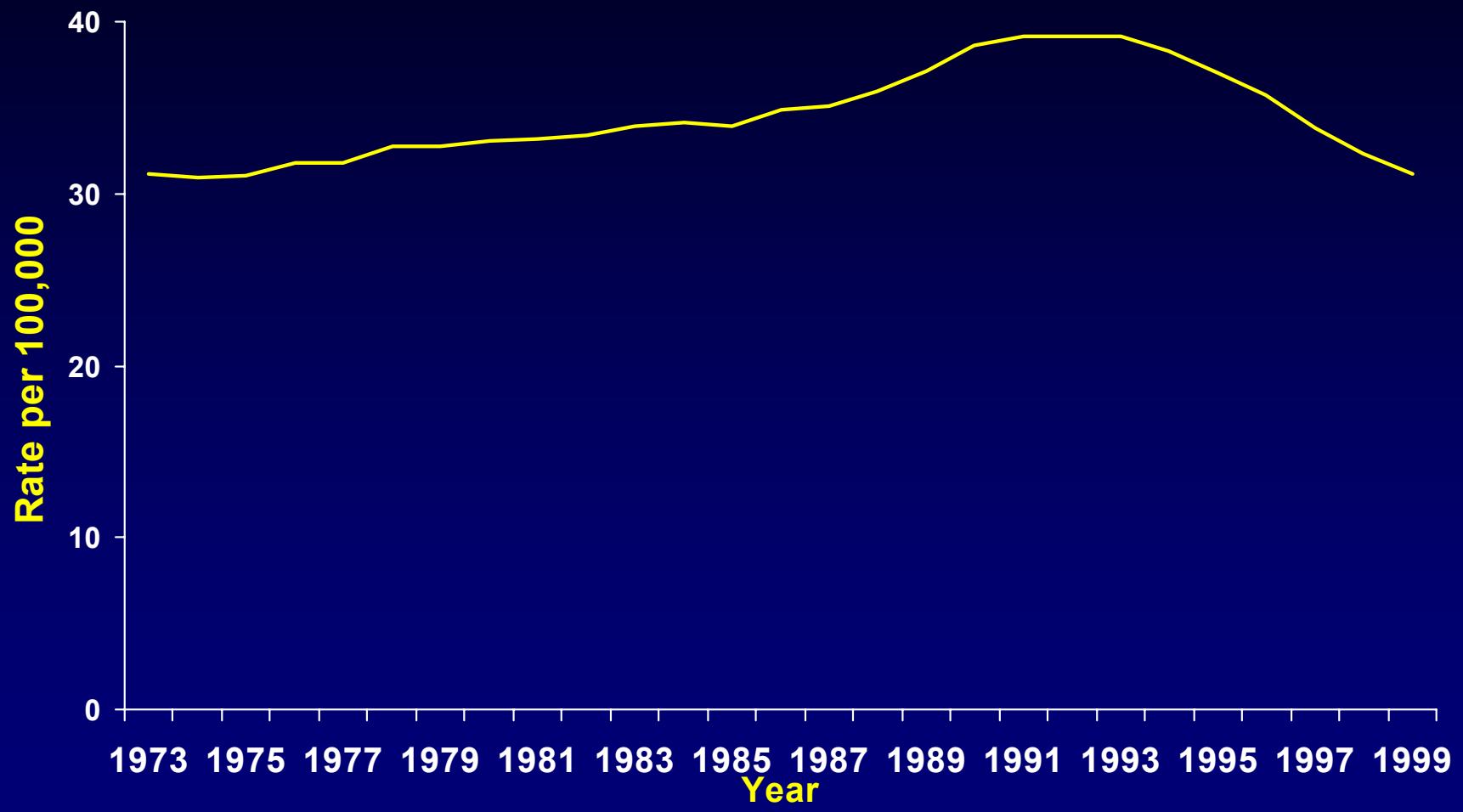
- 7.1% died of prostate cancer
- 14.9% died of other causes

WATCHFUL WAITING



- 13.6% died of prostate cancer
- 14.7% died of other causes

What Happened to U.S. Prostate Cancer Mortality Rates as Screening Rates Increased?



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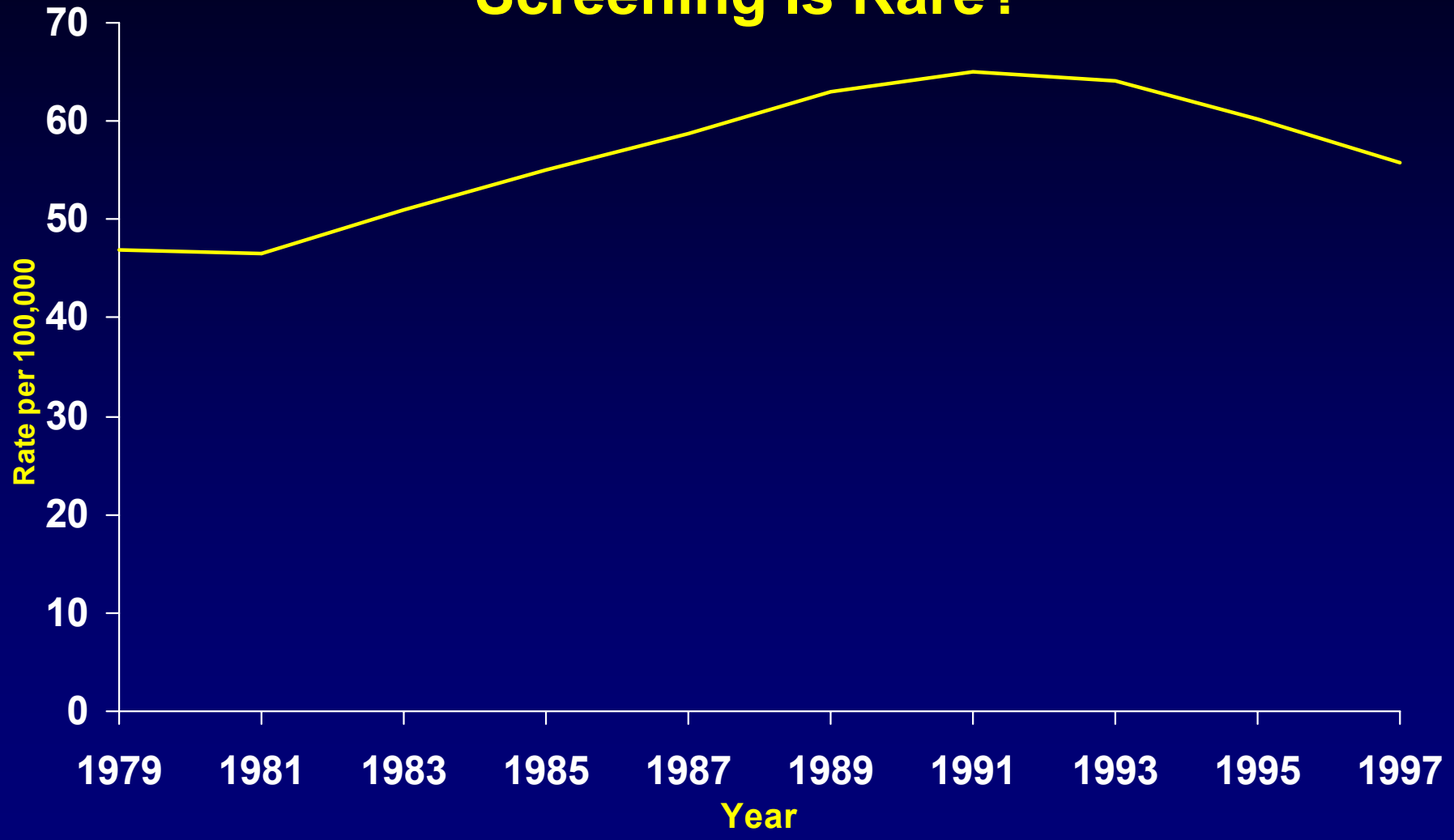
What Happens to Prostate Cancer Mortality Rates in the U.K., where PSA Screening Is Rare?



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Do We Extend Men's Lives by Screening for Prostate Cancer?

We don't know yet.

It may or may not.

Are There Harms From Screening and Early Treatment?

Three issues to consider:

- False-positive screening tests.
- Overdiagnosis (men who do not benefit from diagnosis).
- Side effects of treatment.

Harms: False Positives

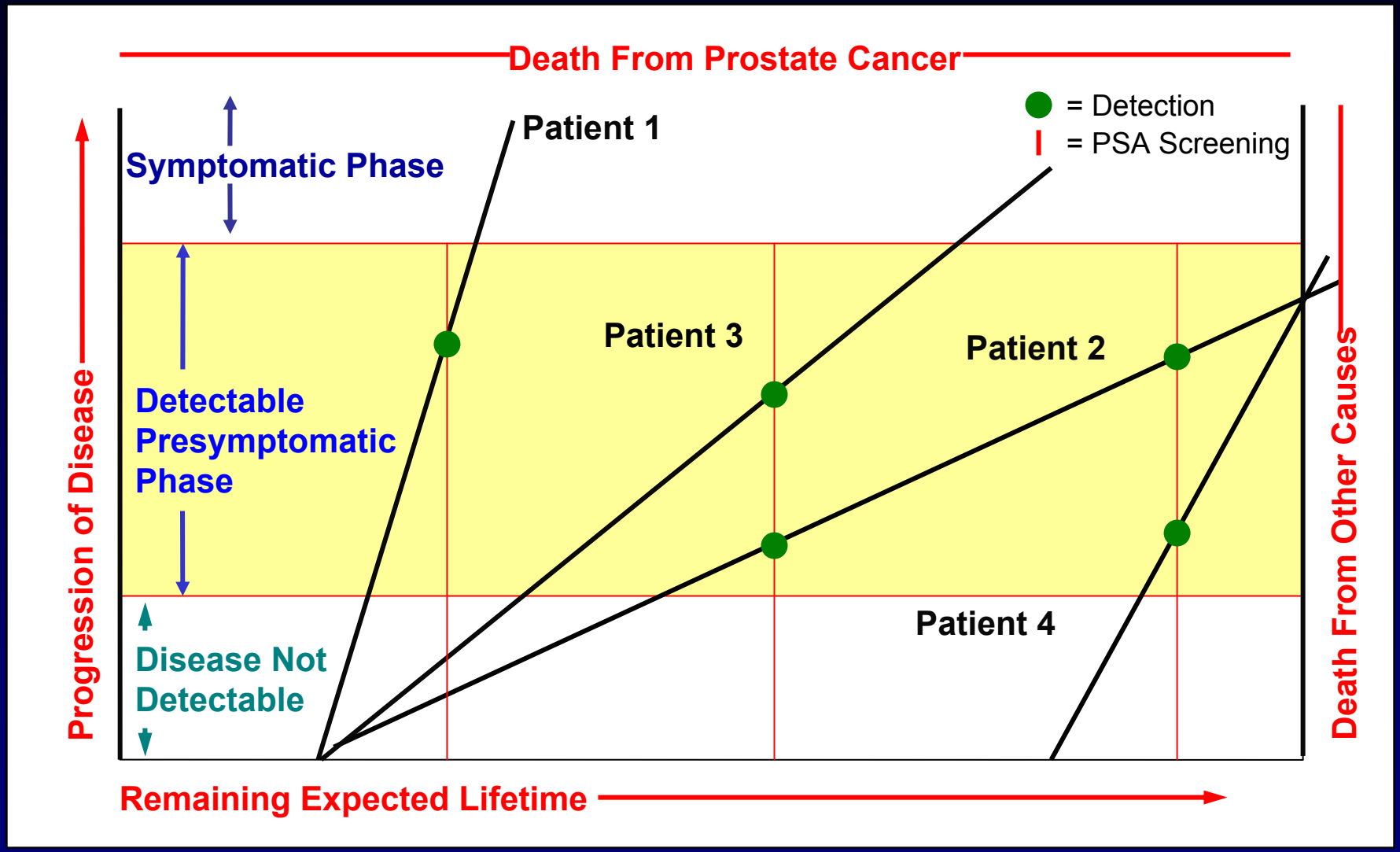
Of 100 unscreened men in each group

Age (in years)	# With PSA >4.0	# With Cancer	# False Positives
50s	5	1–2	3–4
60s	15	3–5	10–12
70s	27	9	18

Overdiagnosis

- Detection by screening of cancers that would never have become clinically apparent.
- Detection of cancers in patients whose lives are not extended by screening and treatment.
- Overdiagnosis leads to unnecessary treatments and their side effects.

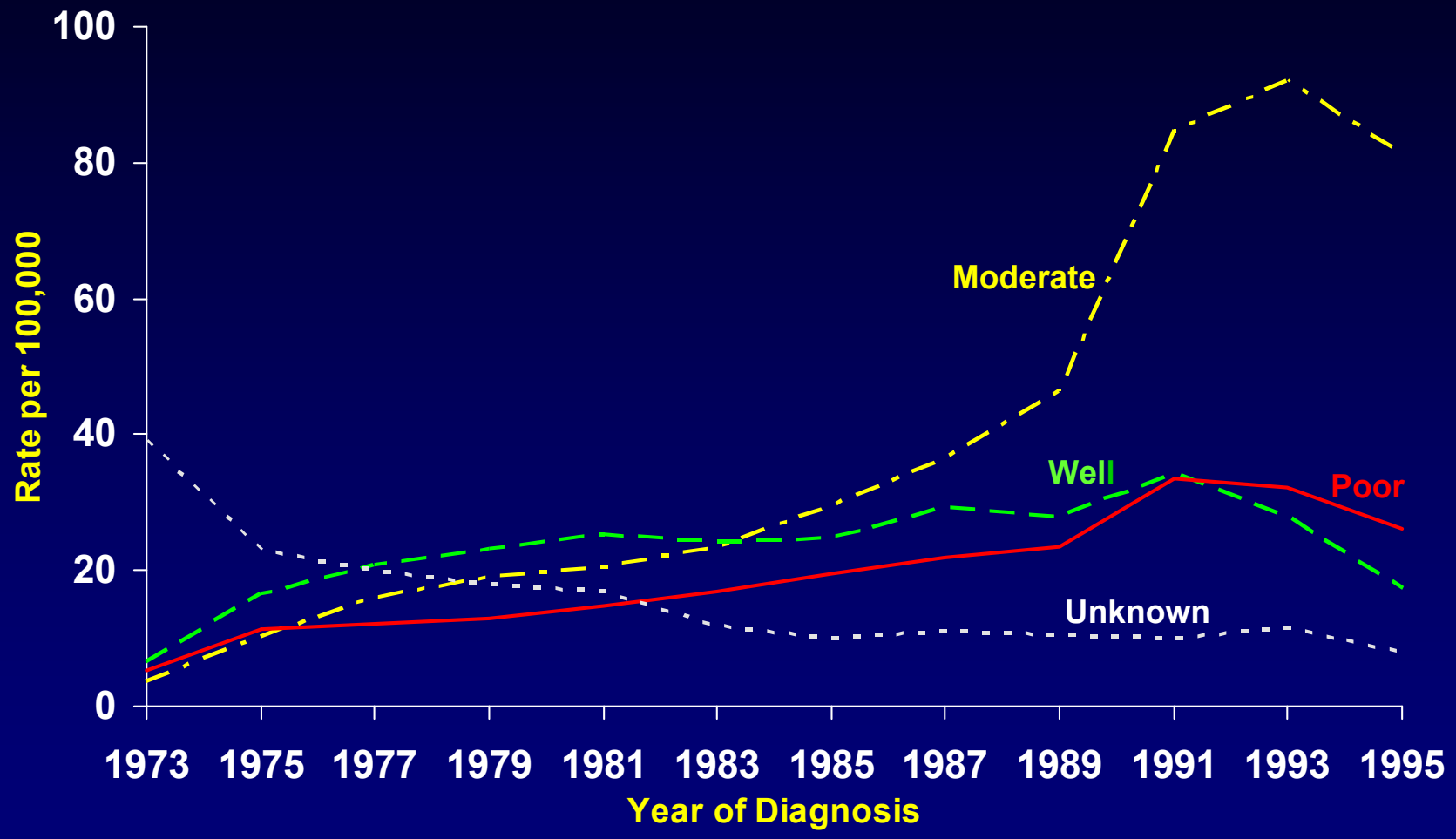
Overdiagnosis, Tumor Heterogeneity, and Life Expectancy



Overdiagnosis

- Overdiagnosis is difficult to quantify.
- One recent report estimated that during 1988–1998 about 3 of every 10 men aged 60–84 diagnosed with prostate cancer by PSA testing would never have had clinical disease.
- Other studies show even higher percentages of overdiagnosis.

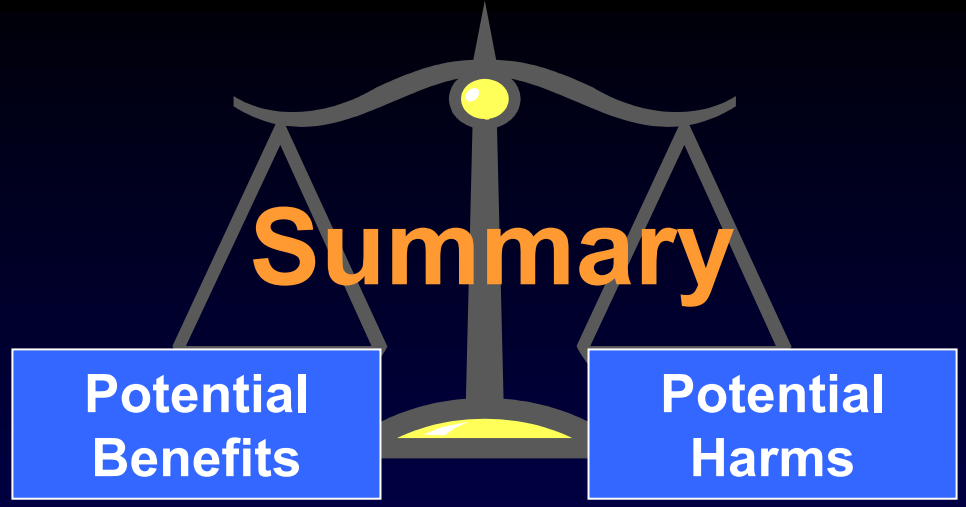
Tumor Rates by Grade



Side Effects of Treatment

Treatment	Side Effect	Frequency
Radical prostatectomy	• Erectile dysfunction • Urinary incontinence	20–70% 15–50%
External beam radiation therapy	• Erectile dysfunction • Urinary incontinence	20–45% 2–16%
Androgen depriv-ation therapy	• Sexual dysfunction • Hot flashes	20–70% 50–60%
Watchful waiting	• Erectile dysfunction	30%

Summary



- PSA screening detects cancers earlier.
- Treating PSA-detected cancers may be effective but we are uncertain.
- PSA may contribute to the declining death rate but we are uncertain.

- False positives are common.
- Overdiagnosis is a problem but we are uncertain about the magnitude.
- Treatment-related side effects are fairly common.

Bottom line: Uncertainty about benefits and magnitude of harms

How Can I Decide Whether to Screen My Patients?

Most medical organizations recommend that clinicians handle the screening issue by:

- Providing information about the pros and cons of screening.
- Using shared decision making.

Should I Screen Higher-Risk Patients?

- The balance of harms and benefits for these men is also unknown.
- These patients need to be involved in shared decision making.

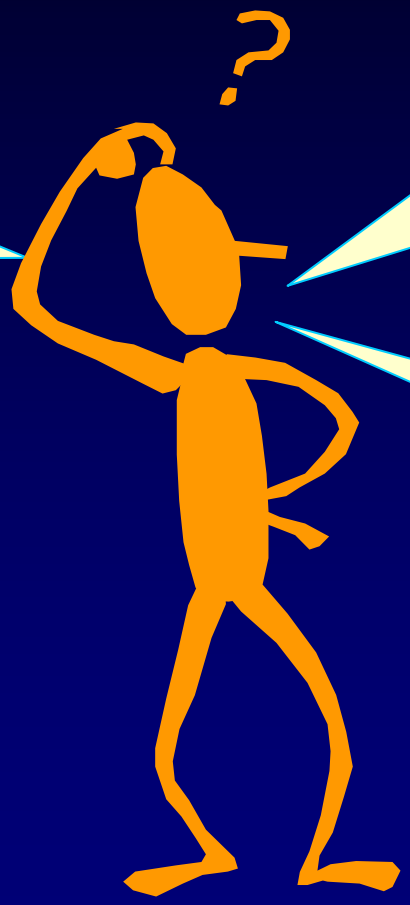
Goal 3:

To discuss how clinicians can use shared decision making to help patients decide whether to be screened for prostate cancer

Informing Patients

Do I know the potential benefits?

Do I know the likelihood of various outcomes?



Do I know the potential harms?

Do I know the potential consequences of my decisions?

Adding Shared Decision Making

Shared decision making means:

- Encouraging a patient to participate in the decision.
- Helping a patient consider how the evidence fits his values and preferences.

Shared Decision Making for Other Clinical Decisions

- Sigmoidoscopy, colonoscopy, or fecal occult blood test for colorectal cancer screening.
- Metformin and/or lifestyle changes for glucose intolerance.
- Treatments for ischemic heart disease.
- Hormone replacement therapies.

Benefits of Shared Decision Making

- How the patient benefits:
  - Takes an active role in his health care.
  - Becomes better informed.
  - Chooses the option most consistent with his personal preferences.
- How the clinician benefits:
  - Solves a clinical dilemma.
  - Informs and involves a patient in his care.

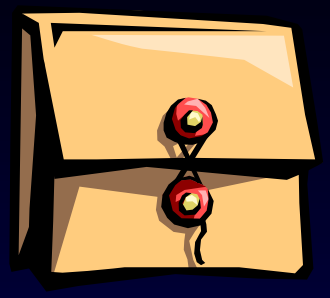
What Is the Best Way To Use Shared Decision Making?

These are the key elements:

1. Provide information: Use decision aids.
2. Discuss his questions and concerns.
3. Discuss why men choose different options.
4. Listen and make a joint decision.

1. Inform Your Patient

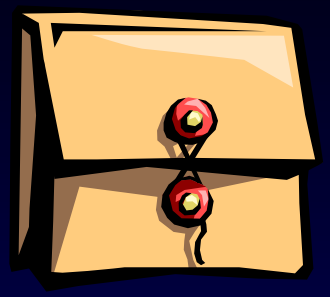
- Let him know that the decision is his, with the clinician's help.
- Give him information about:
  - Prostate cancer.
  - Screening tests.
  - Benefits and side effects of treatment.



Decision Aids To Help in Shared Decision Making

Decision aids:

- Are available in different types: Pamphlets, videos, Web-based formats.
- Can help achieve different goals:
  - All inform and promote patient involvement.
  - Some help patients see that their preferences fit one option better than another.
- Can be used at different times: Before, during, or after the visit.
- Are available at www.cdc.gov/cancer/prostate.



Decision Aids To Help in Shared Decision Making

Evidence suggests such aids help men:

- Become better informed.
- Understand their options.
- Understand which option best fits their preferences.

2. Discuss His Questions and Concerns

- Address misconceptions.
- Give him time to think.
- Use more than one visit, if needed.

3. Discuss Why Men Choose Different Options

- **Patient who decided to be screened:**

  "The way I see it, it's the best thing we've got to protect ourselves from prostate cancer. Even if it saves one life, it is worth all of the possible side effects of treatment. I'm one of those people who just likes to know."

- **Patient who chose not to be screened:**

  "The problem is we really don't know if it will help anyone, and it could hurt people. I think I'll wait until we know more."

4. Listen and Make a Joint Decision

- If he is ready to choose, accept and support his decision.
- If he is not ready, put the decision off until the next visit.
- If he asks what you would choose, tell him you know men who have chosen both options.
- If he is unable or does not want to make a decision, give him your recommendation.

Summary

- Shared decision making is the best current answer because:
  - There is evidence that screening may extend men's lives, but the evidence is not conclusive.
  - Some men suffer harms from screening.
  - How men weigh potential harms and benefits depends on the individual.
- Our challenge:
  - To find ways to help men make their own decisions.

CDC Activities and Resources Related to Prostate Cancer and Shared Decision Making

For more information, go to this Web site:

www.cdc.gov/cancer/prostate