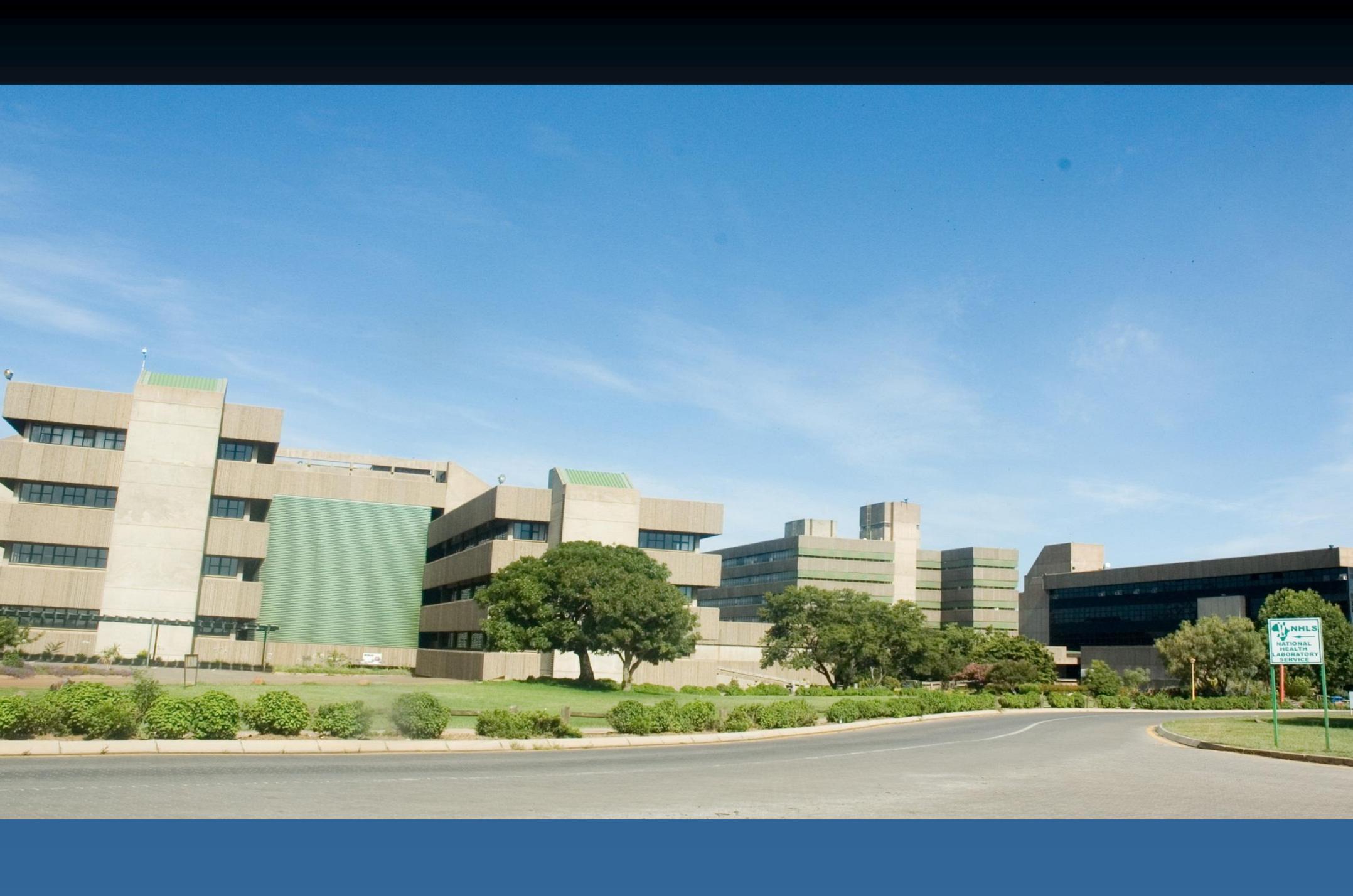


Prostate Cancer in Africa -Dilemmas in Screening & Prevention

Shingai Mutambirwa (MD)

Urologist

ESMO Cape Town 2017

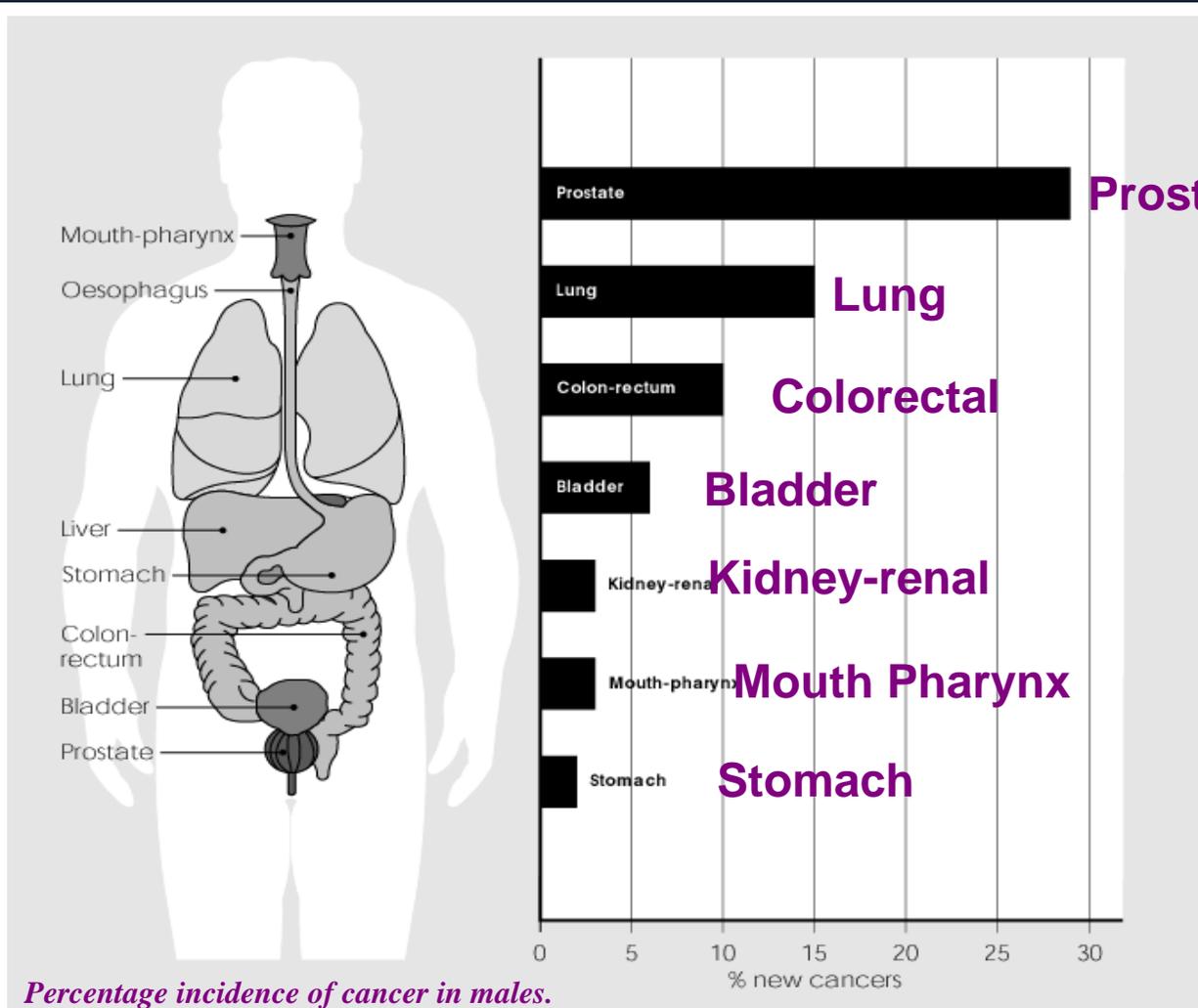


NHLS
NATIONAL
HEALTH
LABORATORY
SERVICE

Disclosures

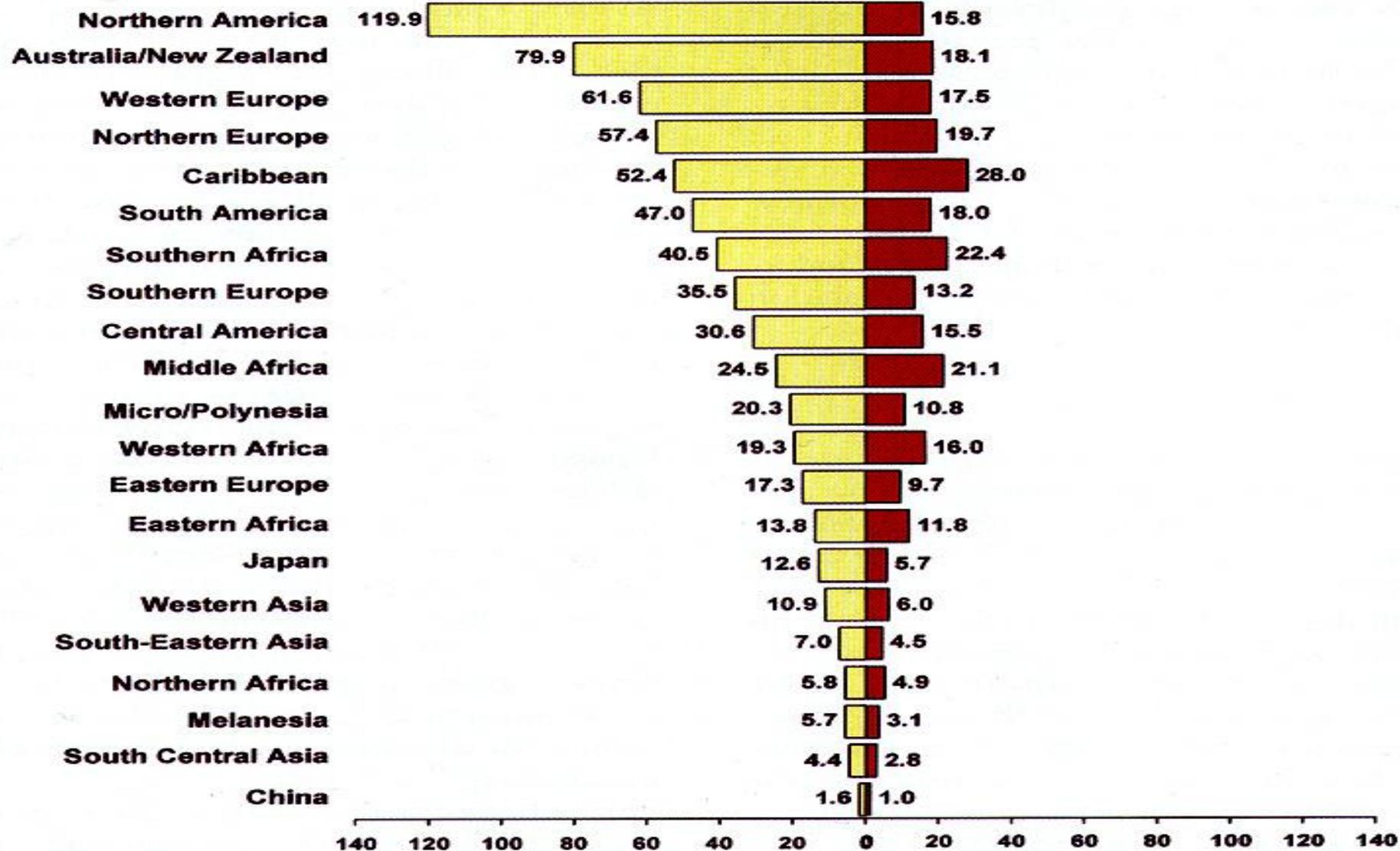
- Adcock Ingram
- Allergan
- Astellas
- Astra-Zeneca
- Bayer
- Eli Lilly
- Ferring
- Janssen
- Pfizer
- Sanofi

Prevalence of cancer in males



Incidence

Mortality



Age standardized per 100,000

What's driving this?

- Higher T-stage and Mortality stage for stage
- Socioeconomic Status
- Choice of Rx



Risk/Protective factors for PCa

- Cooked Tomatoes? Melons!
- Androgen Level, Receptors? CAG repeats!
- Infections? Prostatitis? STIs!
- Sex? Marriage?
- Other causes of Inflammation? Genotype!
 - Oxygen Radicals-Cytochrome P450
 - Single Nucleotide Polymorphism
 - COX-2

The Metabolic Syndrome

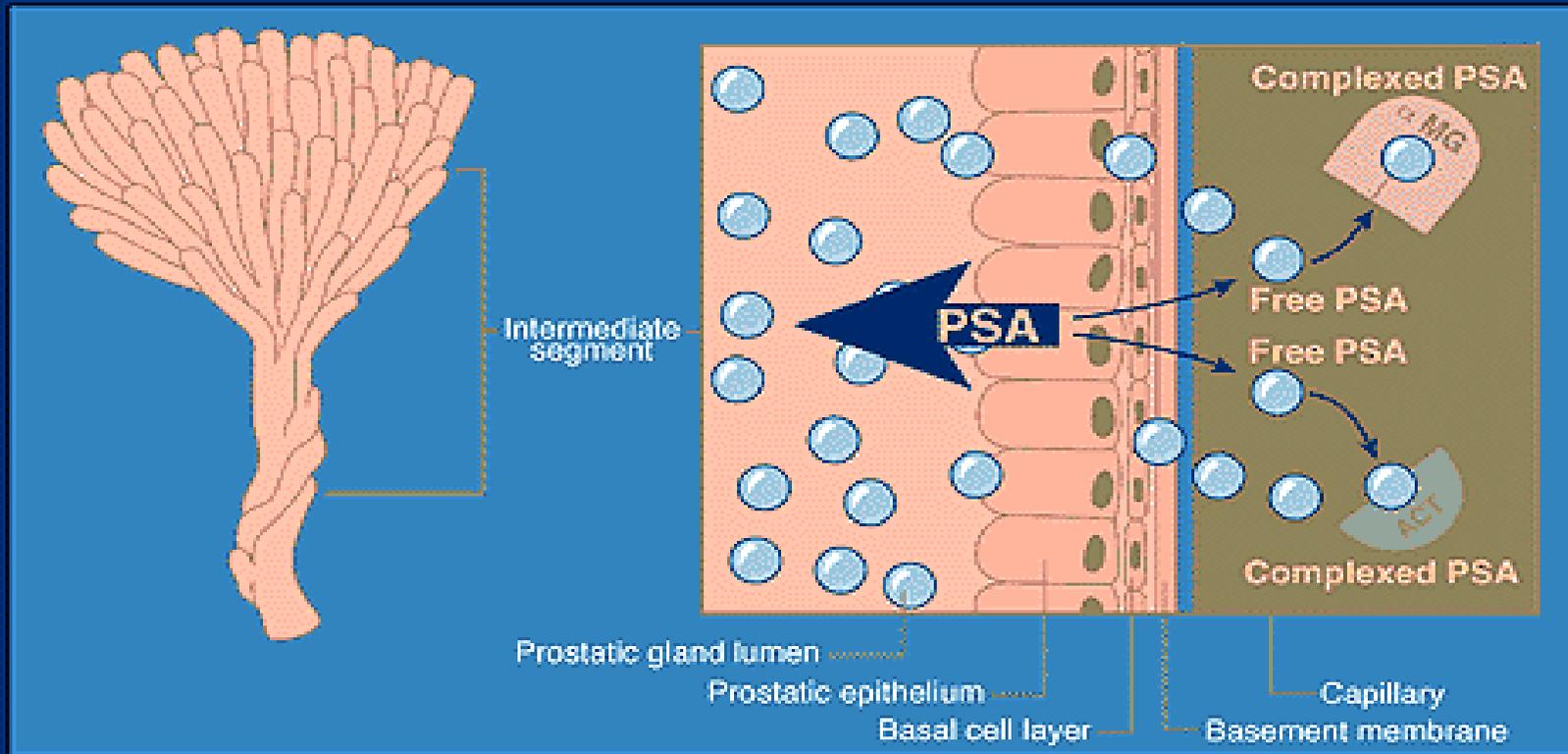


Views on the Future of Cancer Care from Bert Vogelstein - 2013



- Vogelstein is a pioneer in cancer genomics and the world's most cited scientist.
- He is skeptical of scientists who talk about cures. "What we really should first be thinking about is detecting and preventing cancer at a stage when it can be cured by conventional means".
- "I think 50 years from now, **three-quarters of cancer deaths will be gone**. That's a realistic estimate, and I think **most of that decrease will come from better prevention and early diagnosis**, and the rest will come from better therapies."

Absorption of PSA into bloodstream and prostatic ducts



The New York Times



PSA testing saves few lives and leads to risky and unnecessary treatments for large numbers of men.

Urology group stops recommending routine PSA test.

The Washington Post

Healthy men don't need PSA testing for prostate cancer, panel says

Early Diagnosis and Treatment

- **PSA Testing** – does it save lives and what should we be saying?
- **Comparison of screening trials** - PLCO versus ERSPC.

In medicine there are **always** two things that we should **never** say – always and never!

- Does PSA testing save lives?

Yes and no.

- Can PSA testing do more harm than good?

Yes and no.

- What is the difference? The viewpoint:

- **Public Health** - where the word PSA **screening** refers to **populations**.

- **Patient Care** - where the word PSA **testing** refers to **individuals**.

Economics of PCa Screening in RSA

- History and clinical examination(USD50)
- USS-(USD60)
- PSA-(USD12)
- GDP Health~9%
=USD 45 billion
- If screen~ same as for hypertension~ 7,5% of total health budget
=USD 3.6 billion!



In medicine there are **always** two things that we should **never** say – always and never!

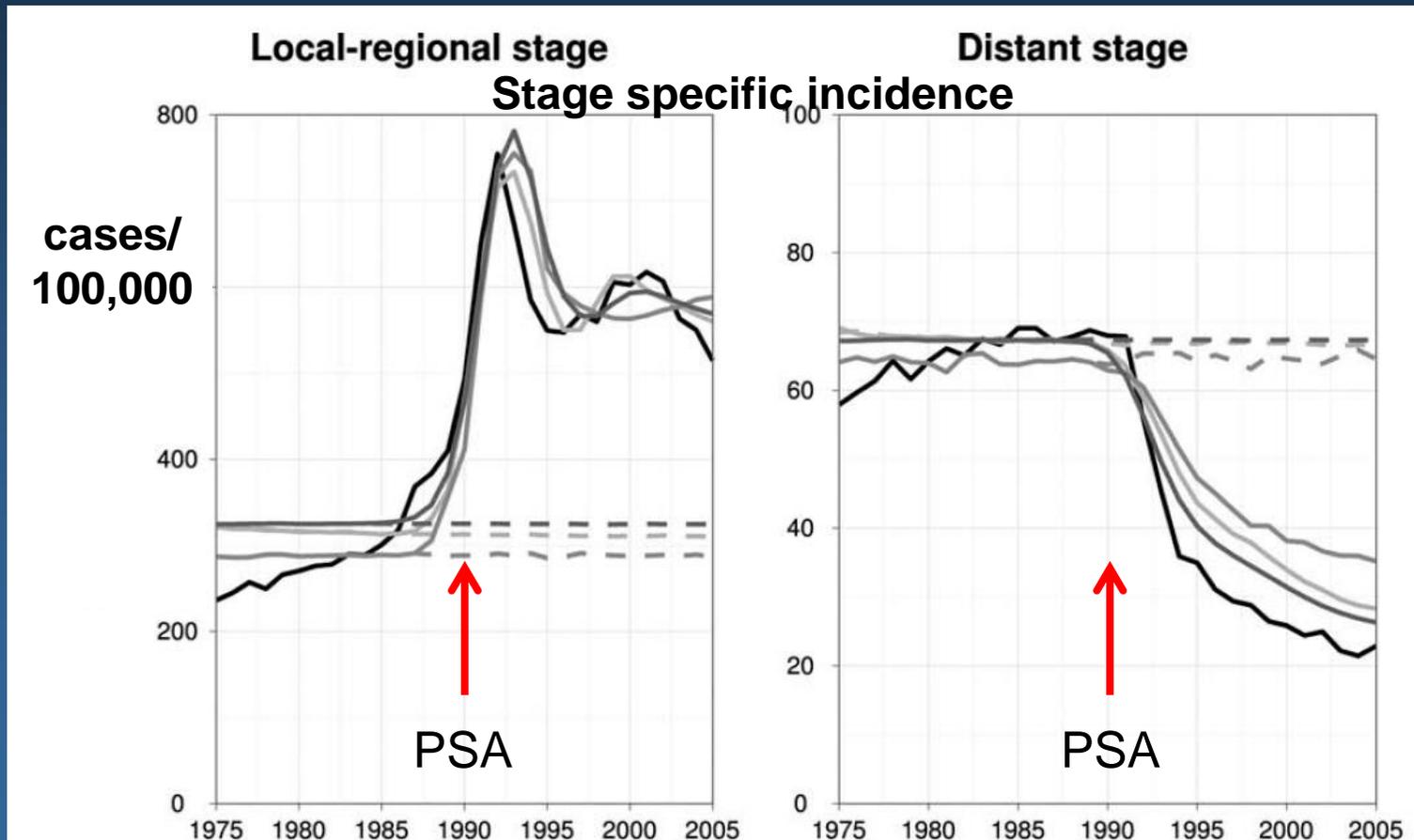
- Does PSA testing save lives?

Yes

The Prostate Cancer Conundrum Revisited

Treatment Changes and Prostate Cancer Mortality Declines Cancer 2012

Ruth Etzioni, PhD¹; Roman Gulati, MS¹; Alex Tsodikov, PhD²; Elisabeth M. Wever, MS³; David F. Penson, MD⁴;
Eveline A. M. Heijnsdijk, PhD³; Jeffrey Katcher, BS¹; Gerrit Draisma, PhD³; Eric J. Feuer, PhD⁵;
Harry J. de Koning, PhD³; and Angela B. Mariotto, PhD⁵



Impact of PSA Testing on Clinical Stage at Diagnosis

Stage	1990	2009
Localized disease	68% →	91%
Metastases to bone	21% →	4%

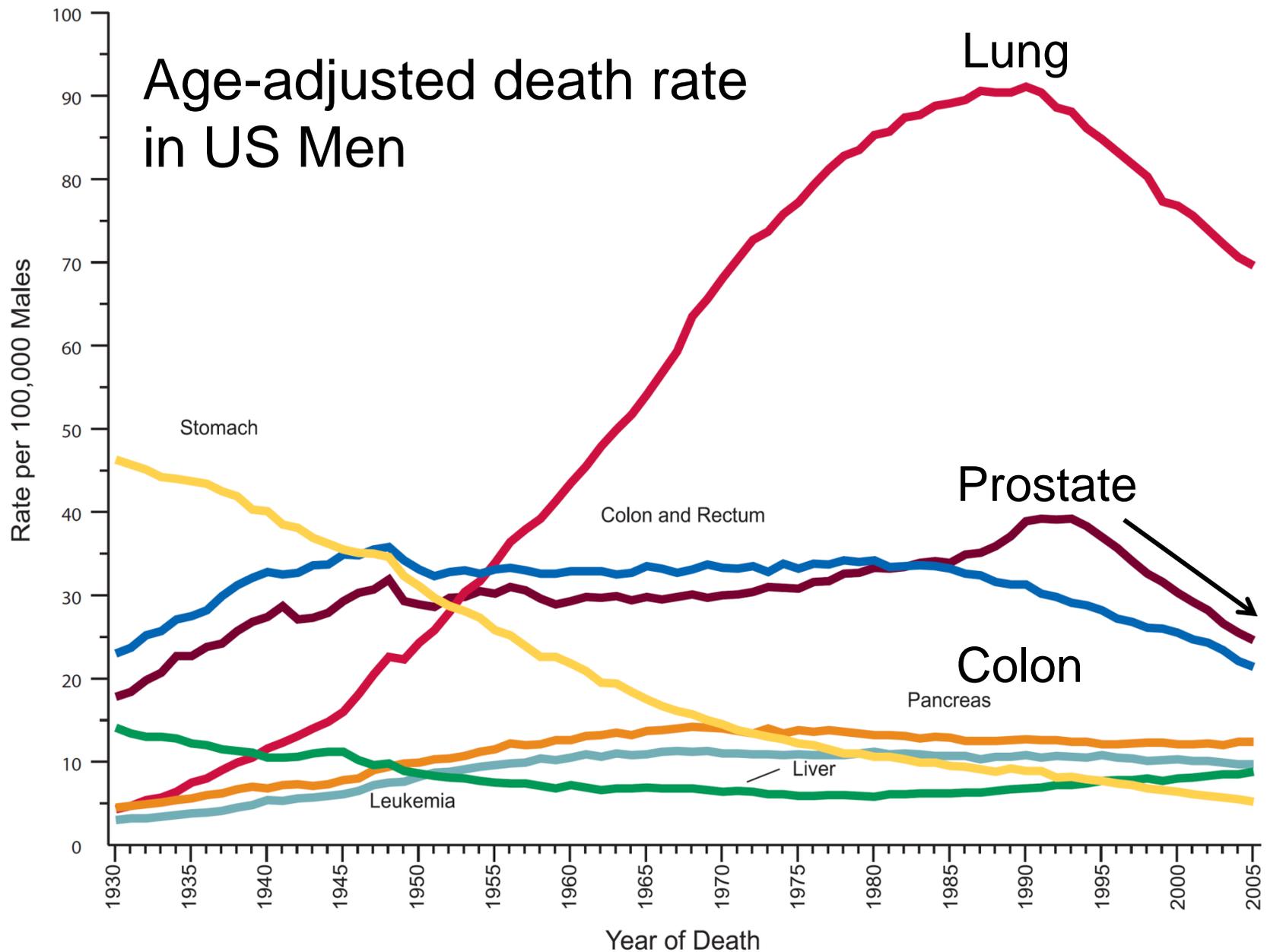


FIGURE 4. Annual Age-adjusted Cancer Death Rates among Males for Selected Cancers, United States, 1930-2005.

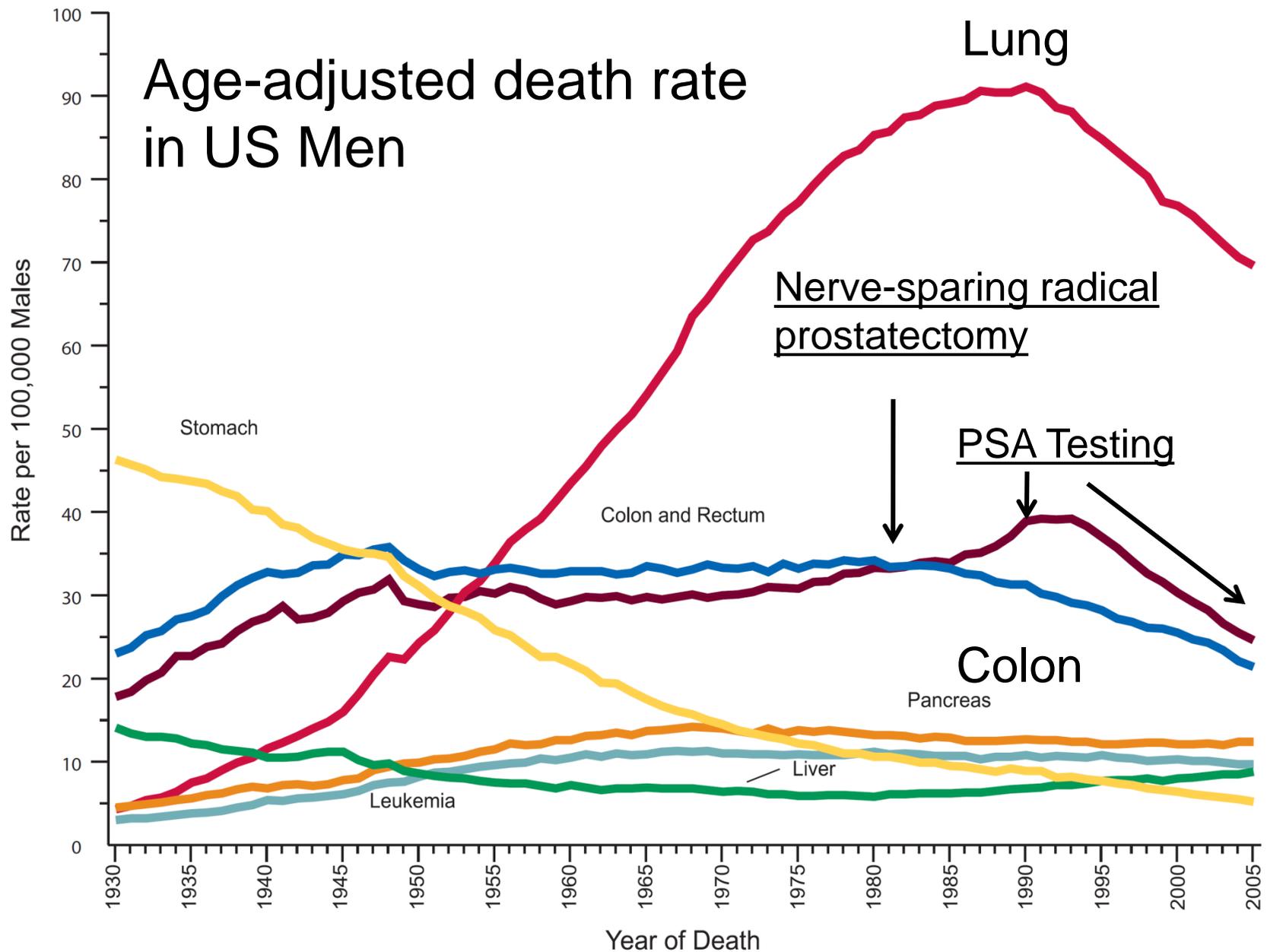


FIGURE 4. Annual Age-adjusted Cancer Death Rates among Males for Selected Cancers, United States, 1930-2005.

In medicine there are **always** two things that we should **never** say – always and never!

- Does PSA testing save lives?
Yes and **no**.

In randomized trials PSA screening has minimal/no effect

- **PLCO** (severely flawed for many reasons) – **no effect**
- **ERSPC** – 20% reduction in death from prostate cancer but to achieve this positive effect **1000 men** must be screened **to reduce one death**.
- What's the problem? Both studies are based on **mortality at 10 years**.

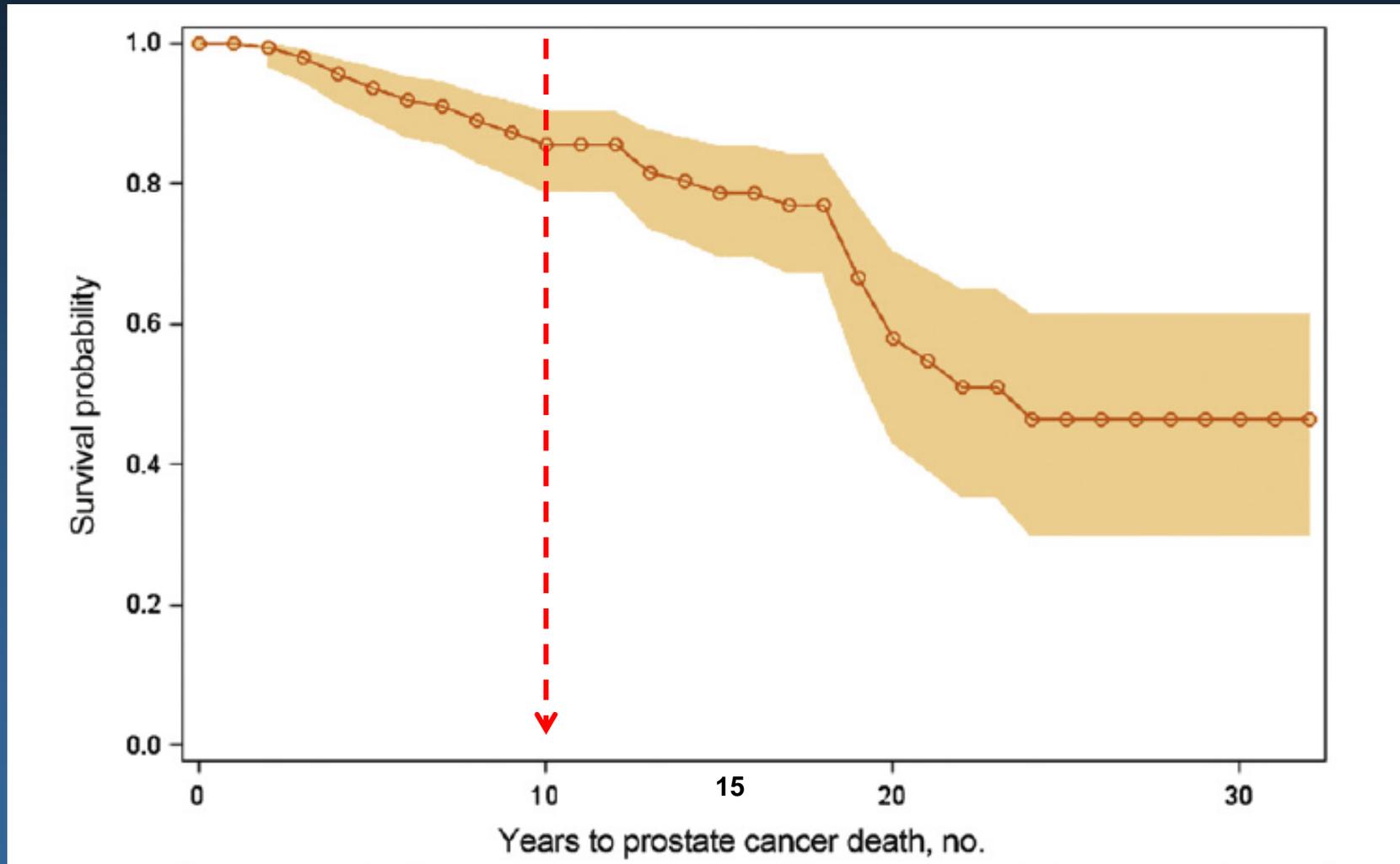
Most men with curable disease who are untreated do not die within 10 years

- Observational study of 223 men with early, low risk prostate cancer –
 - 47% non-palpable,
 - 66% Grade 1 and 15% Grade 2
- Followed expectantly for 30 years without initial treatment. Hormonal therapy administered at progression.

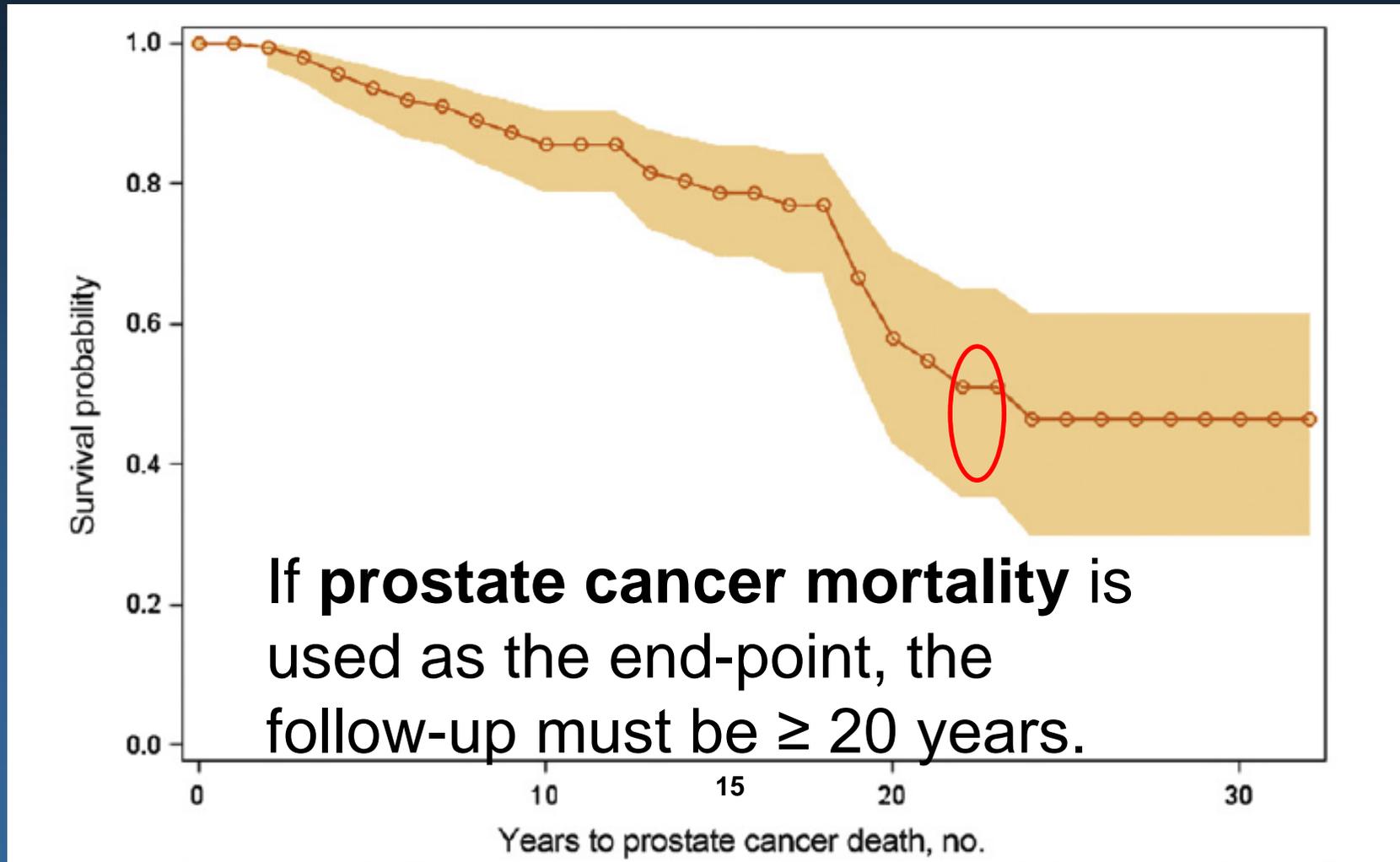
Natural History of Early, Localized Prostate Cancer: A Final Report from Three Decades of Follow-up ¹⁵

Marcin Popiolek^{a,†}, Jennifer R. Rider^{b,c,†,}, Ove Andrén^a, Sven-Olof Andersson^a, Lars Holmberg^{d,e}, Hans-Olov Adami^{c,f}, Jan-Erik Johansson^a*

Most men with curable disease who are untreated do not die within 10 years



Most men with curable disease who are untreated do not die within 10 years



There Is More to Life Than Death

N ENGL J MED 367;11 NEJM.ORG SEPTEMBER 13, 2012

Pamela Hartzband, M.D., and Jerome Groopman, M.D.

- The problem with using mortality as the endpoint.
- How do we balance the possibility of a later life with advanced prostate cancer marked by bone pain, pathologic fractures, and urinary obstruction against the more immediate symptoms of incontinence and impotence that often follow curative treatments.
- In the PLCO and ERSPC, there is **no mention nor consideration of the side effects from hormonal therapy, metastases, nor the weakness and inanition that precede death** – the only side effects considered were incontinence, impotence and rectal injury.

My approach to PSA testing

- **Who should be tested** – men with a 10-15 year lifespan who do not want to die from prostate cancer.
- **What can we can do to improve screening?** (*Carlsson et al. J Clin Oncol 2012; 30:2581-84*)
 - Avoid screening in men with a limited lifespan
 - Avoid treatment in men who do not need it.
 - Refer men who need treatment to high-volume centers so that the risk of treatment-related complications is reduced.

Early Detection of Prostate Cancer: AUA Guideline

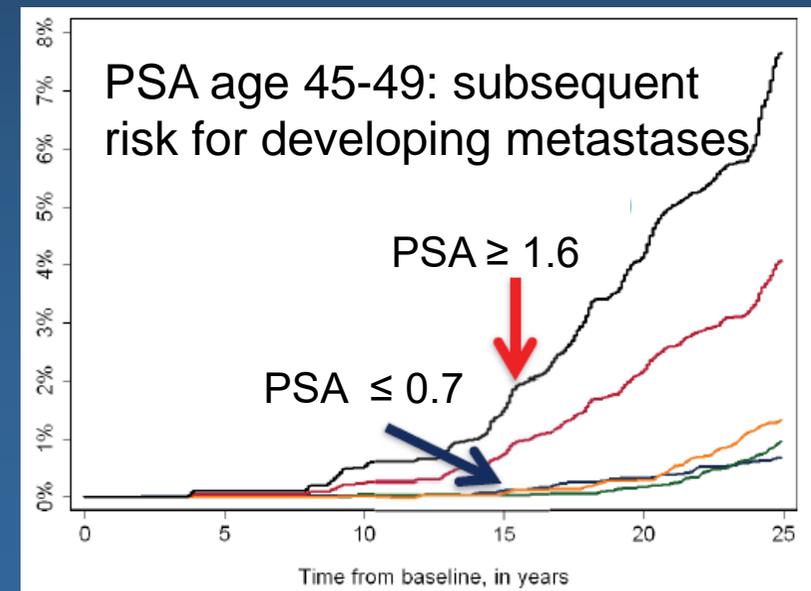
H. Ballentine Carter, Peter C. Albertsen, Michael J. Barry, Ruth Etzioni, Stephen J. Freedland, Kirsten Lynn Greene, Lars Holmberg, Philip Kantoff, Badrinath R. Konety, Mohammad Hassan Murad, David F. Penson and Anthony L. Zietman

J Urol 2013; 190 Epub

- The Panel **does not recommend routine screening in men between ages 40 to 54 years at average risk EXCEPT** for men younger than age 55 years at higher risk (e.g. positive family history or African American race)

AUA Guideline - 2013

- *There is no information for or against testing at this age and for men in their forties, a **single baseline PSA measurement** is useful in risk stratification.*



AUA Guideline - 2013

- The Panel does not recommend routine PSA screening in men over age 70 years or any man with less than a 10 to 15 year life expectancy. Some men over age 70 years who are in excellent health may benefit.
- *The cutoff at age 70 needs to be revisited.*
 - *50% of deaths from prostate cancer occur in men who are diagnosed after age 75* (Scosyev et al Cancer 2012;118:3062)
 - *9 years after stopping PSA testing the incidence of potentially lethal cancers equals that of nonscreened men.* (Bergdahl et al. Eur Urol 2013; Epub May 8, 2013)

Diagnostic tools for detecting prostate cancer



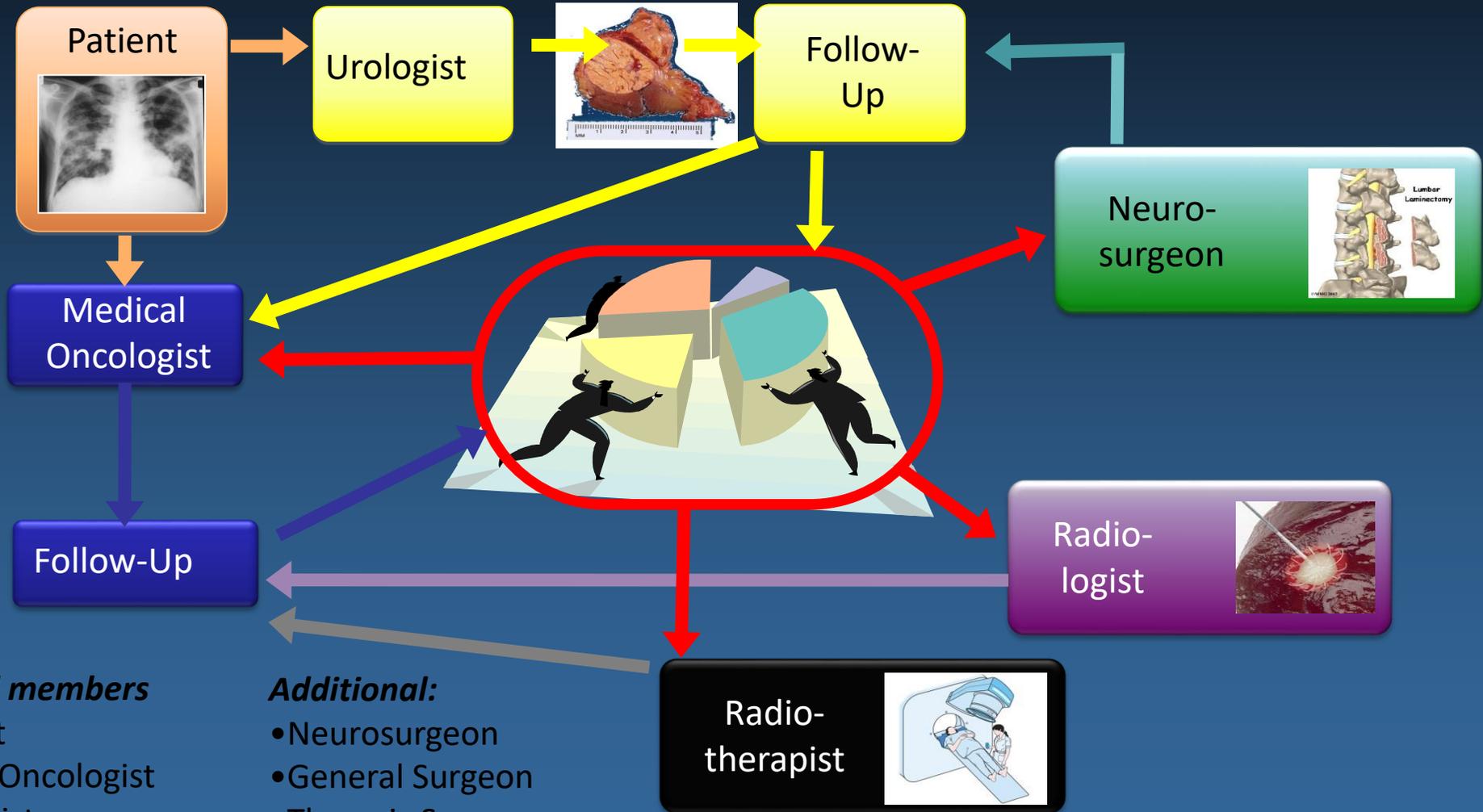
PROSTATE EXAMINATION

D.I.Y. KITS NOW AVAILABLE AT A HARDWARE STORE NEAR YOU!



" STOP SHOWIN' OFF, GEORGE, ! "

Organisation of Follow Up and Multidisciplinary Uro-oncology Panel



Full Panel members

- Urologist
- Medical Oncologist
- Radiologist
- Radiotherapist

Additional:

- Neurosurgeon
- General Surgeon
- Thoracic Surgeon
- Pathologist