

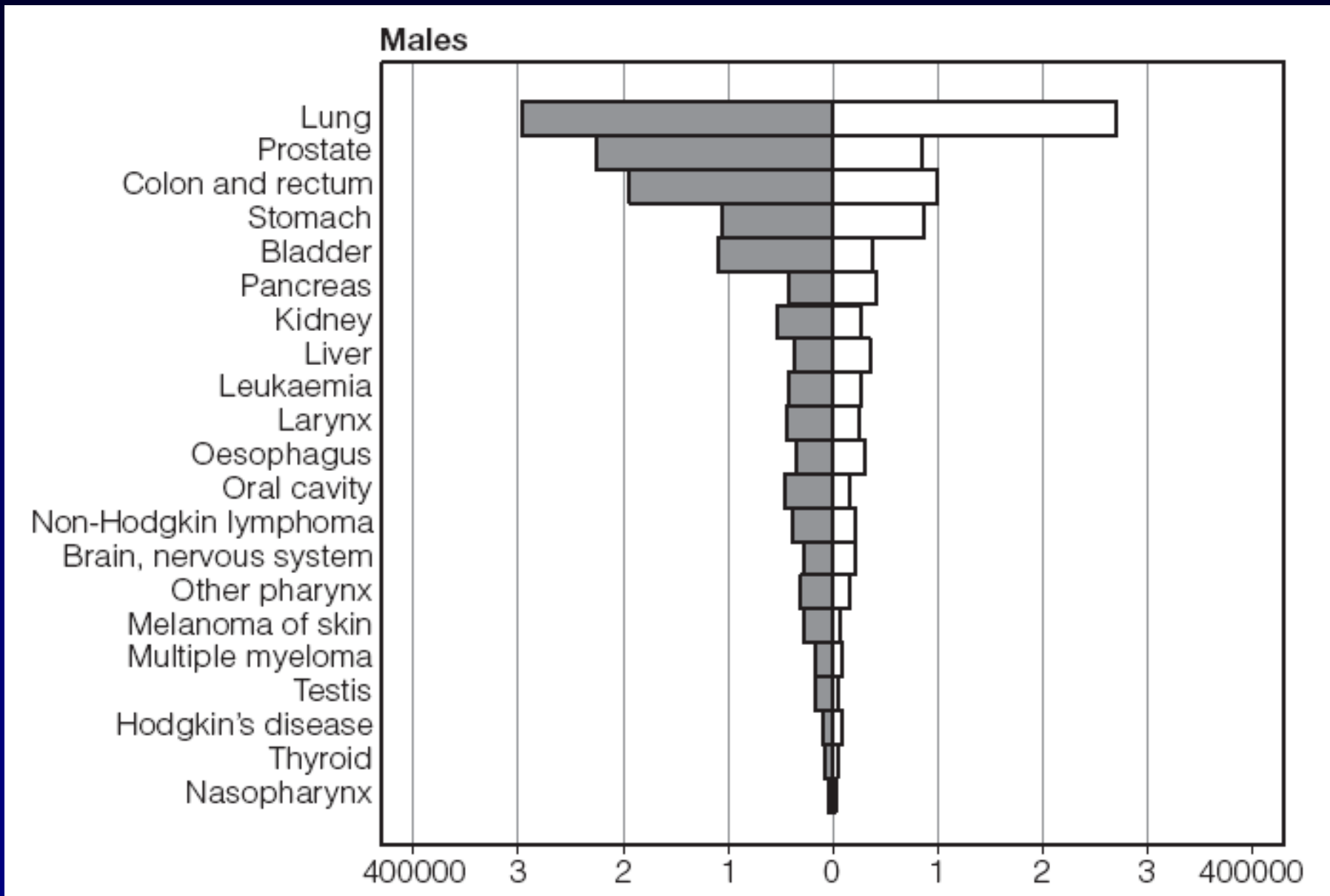
# **Evidências científicas para o rastreamento do câncer da próstata**

**Scientific evidence for prostate cancer screening**

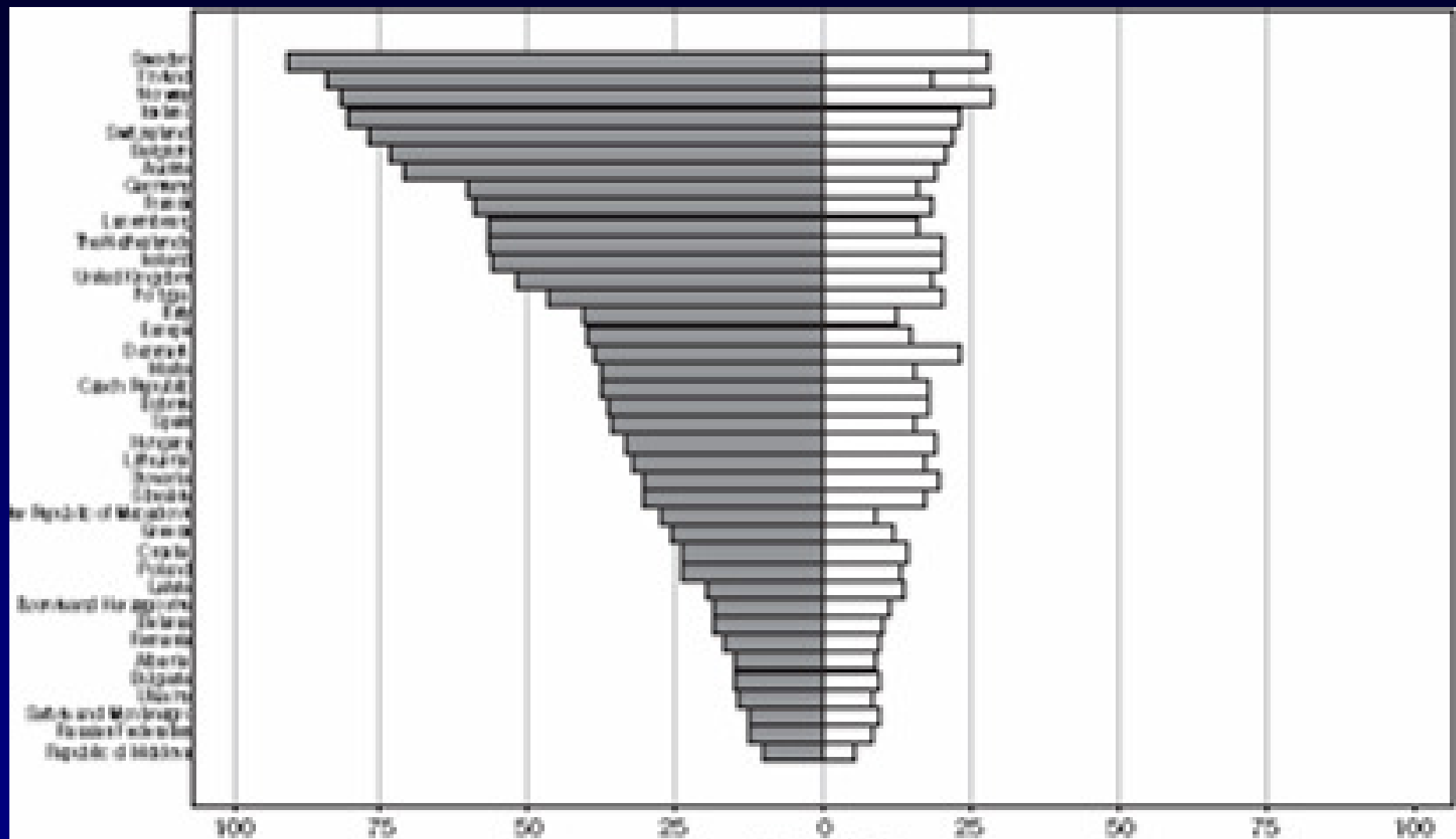
**VII Congresso Brasileiro de Epidemiologia**  
**XVIII IEA World Epidemiology Congress**

*Porto Alegre RS, 23 September 2008*

# Prostate cancer: new cases and deaths, Europe, 2002

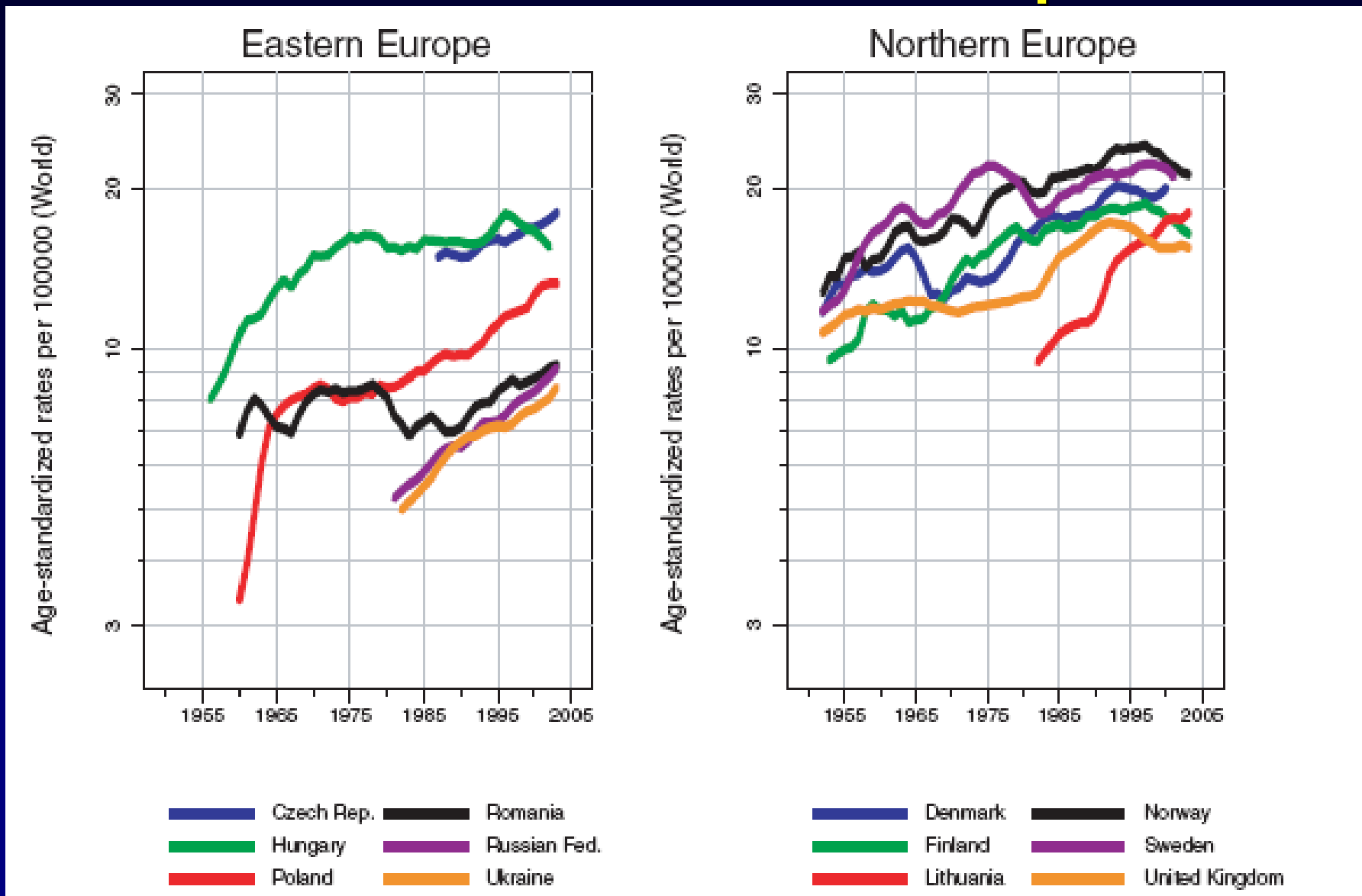


# Prostate cancer incidence and mortality, 2002

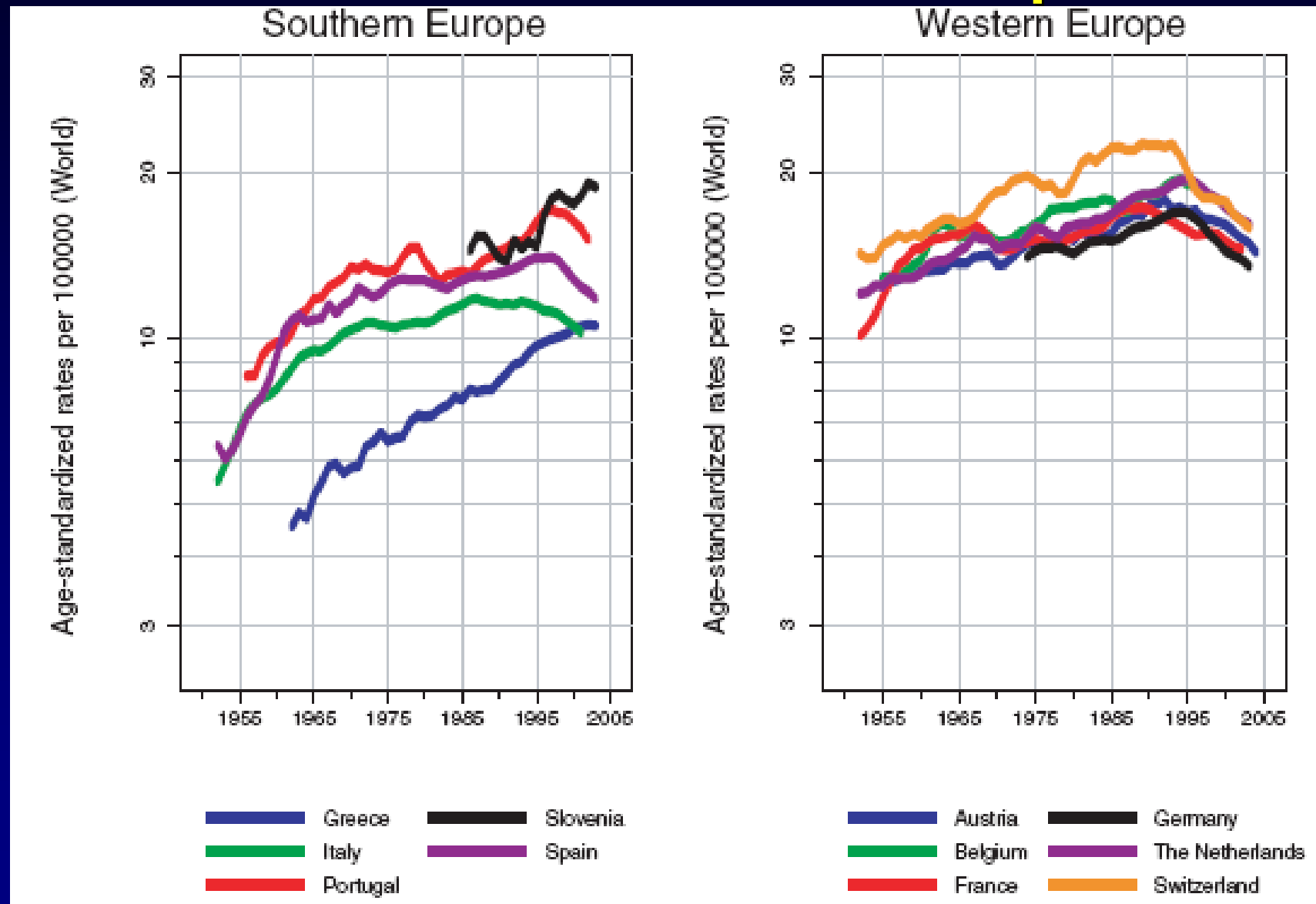


Incidence and mortality rates per 100,000 per year

# Prostate cancer mortality trends 1955-2005: eastern and northern Europe



# Prostate cancer mortality trends 1955-2005: southern and western Europe



# Prostate cancer

- **Incidence has risen rapidly**
- **Mortality has risen less – but long-term**
- **Natural history is variable**
- **Indolent cancer is common at autopsy**
- **“PIN” does not predict invasion**
- **Lead-time 3-12 years (PSA-detected)**

*PIN – prostatic intra-epithelial neoplasia*

# Prostate cancer screening tests

## Prostate-specific antigen (PSA)

- **Natural enzyme in seminal fluid**
- **Serum levels raised in disease (cancer, ...)**
- **Not sufficiently sensitive or specific**
- **Optimal threshold unknown (4 ng/ml)**

## Digital rectal examination (DRE)

- **Detects only palpable disease**
- **5 case-control studies: 30-50% benefit in 2**
- **Low sensitivity for detecting early disease**

## Trans-rectal ultrasound (TRUS)

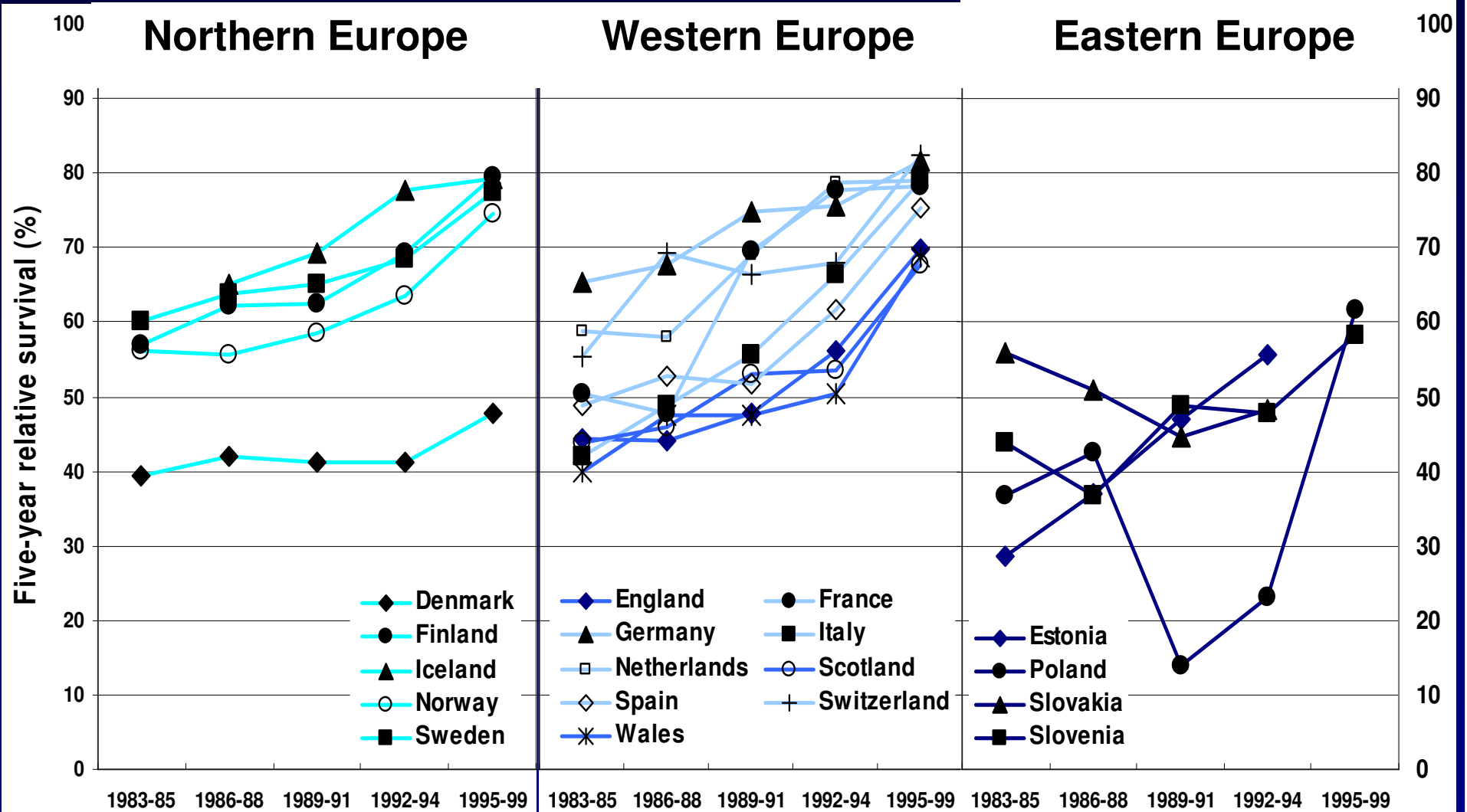
# Prostate cancer – cumulative risk % England and Wales, 1980-2000

	1980	1985	1990	1995	2000
50-69 years	4	5	5	7	9
45-99 years	12	14	15	20	21

*Rowan et al., 2008; Cancer Research UK, 2006*

# Prostate cancer survival trends to 2003

## Europe, men diagnosed 1983-99



# Prostate cancer treatment

- **Prostatectomy – radical or trans-urethral**
- **Radiotherapy**
- **“Watchful waiting”**
- **Hormones in metastatic disease**
- **Chemotherapy not widely used**

# Prostate cancer treatment

## “Over-diagnosis”

- **30-45% of PSA-detected cancers**

## Major adverse effects

- **Erectile dysfunction**
- **Urinary incontinence**
- **Radiation cystitis and proctitis**

# Prostate cancer screening trials

## European Randomized Study of Screening for Prostate Cancer

- **Over 200,000 men aged 50-74 recruited so far**
- **Netherlands, Finland, Sweden, Italy, Belgium, Spain, Switzerland, France**
- **PSA test, every 1-4 years**
- **First mortality results in 2010**

[www.erspc.org](http://www.erspc.org)

## Prostate, Lung, Colorectal and Ovarian trial (USA)

- **76,705 men aged 55-74 (for prostate) 1993-2001**
- **Both PSA and DRE tests**
- **Mortality results expected 2010**

# European Randomized Study of Screening for Prostate Cancer (ERSPC)

## End-points

- **Mortality, survival, quality of life**
- **Cost-benefit analysis (public health)**

## Power

- **25% reduction in mortality (de Koning, 2002)**

## Other measures

- **Pathology**
- **Tumour marker biology**
- **Process and quality control measures**

# PSA screening - official positions (2003-)

World Health Organisation

Union Internationale Contre le Cancer

European Union

US National Cancer Institute

- **Not (yet) shown to reduce mortality**
- **Not recommended for routine screening**
- **Await randomised trial evidence**

# ACS recommendations for the early detection of prostate cancer (2008)

**The American Cancer Society (ACS) does not support routine testing for prostate cancer at this time.**

**ACS does believe that health care professionals should *offer* the prostate-specific antigen (PSA) blood test and digital rectal exam (DRE) yearly, beginning at age 50, to men who have at least a 10-year life expectancy. Men at high risk should start testing at age 45.**

# European Randomized Study of Screening for Prostate Cancer (ERSPC)

**“This study should result in advice to governments around the world as to whether screening for prostate cancer should be a part of the general provision of health care to our populations.”**

## Prostate cancer screening – summary

- PSA not yet shown to reduce mortality
- Use PSA screening *only* in trials
- Two well-designed trials are in progress
- Wait for the evidence