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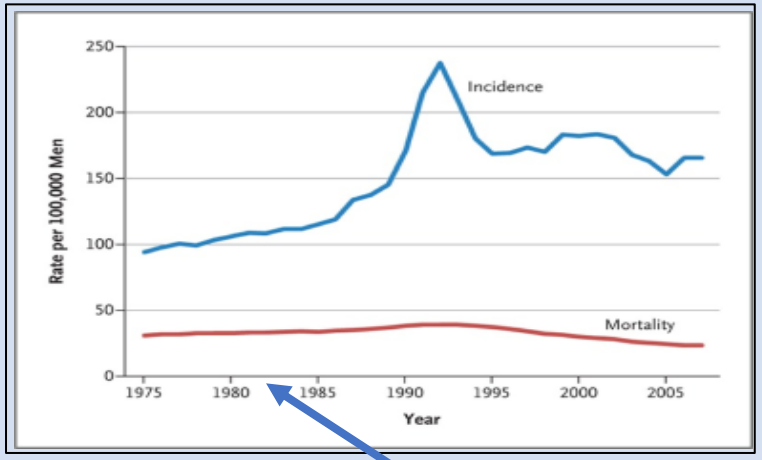
Prime time for organised, risk-adapted PCa Screening? Impact of the EU Recommendations

Hein Van Poppel
Urology, KU Leuven, Belgium
Chairman EAU Policy Office

UROART Session 1 – Early detection

1980 - 2016



Start of PCa screening trials

US: PLCO (*n*=76,000)

Europe: ERSPC (*n*=182,000)

PCa specific mortality

Clarity

Both the ERSPC and PLCO trials provide evidence that PSA-screening reduces PCa mortality by 30%

1980 → 1984 → 1987 → 1993 → 2009 → 2016

Pre-screening area

1/3-1/2 PCa died

DRE only

30-35% Bone mets at diagnosis

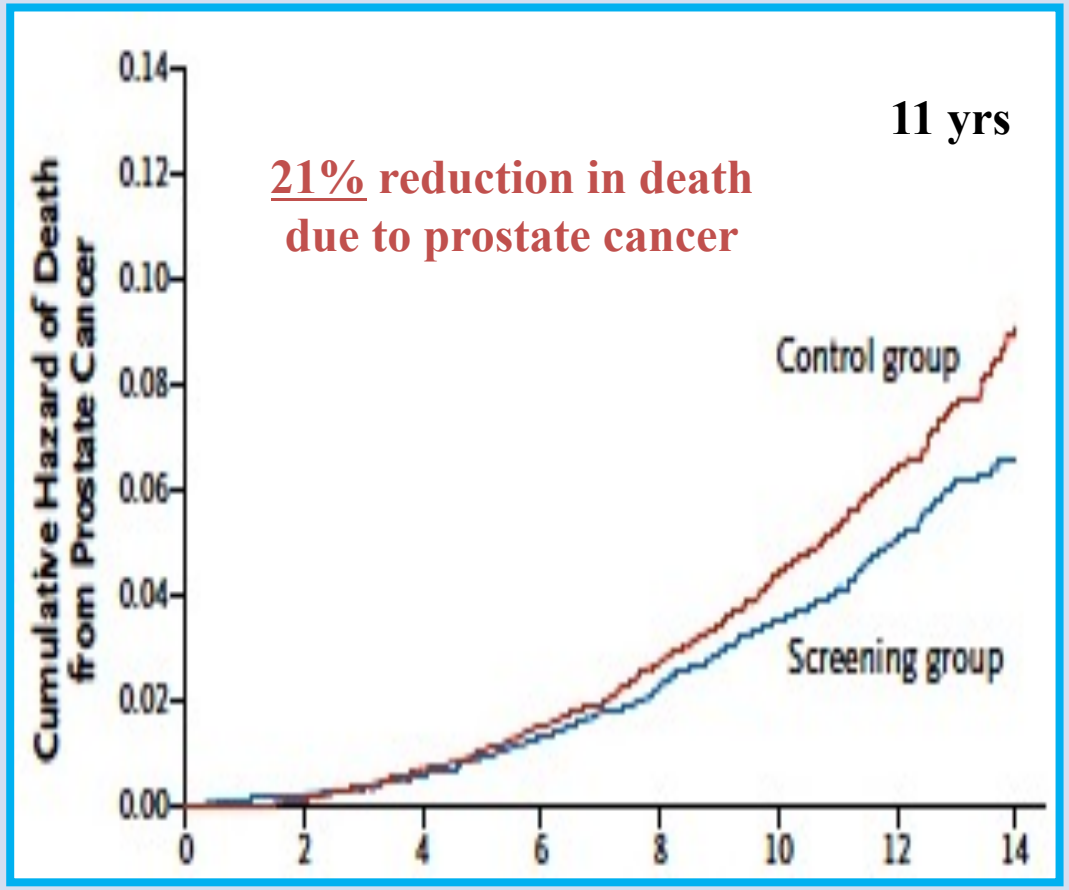
Published results of ERSPC and PCLO created controversies

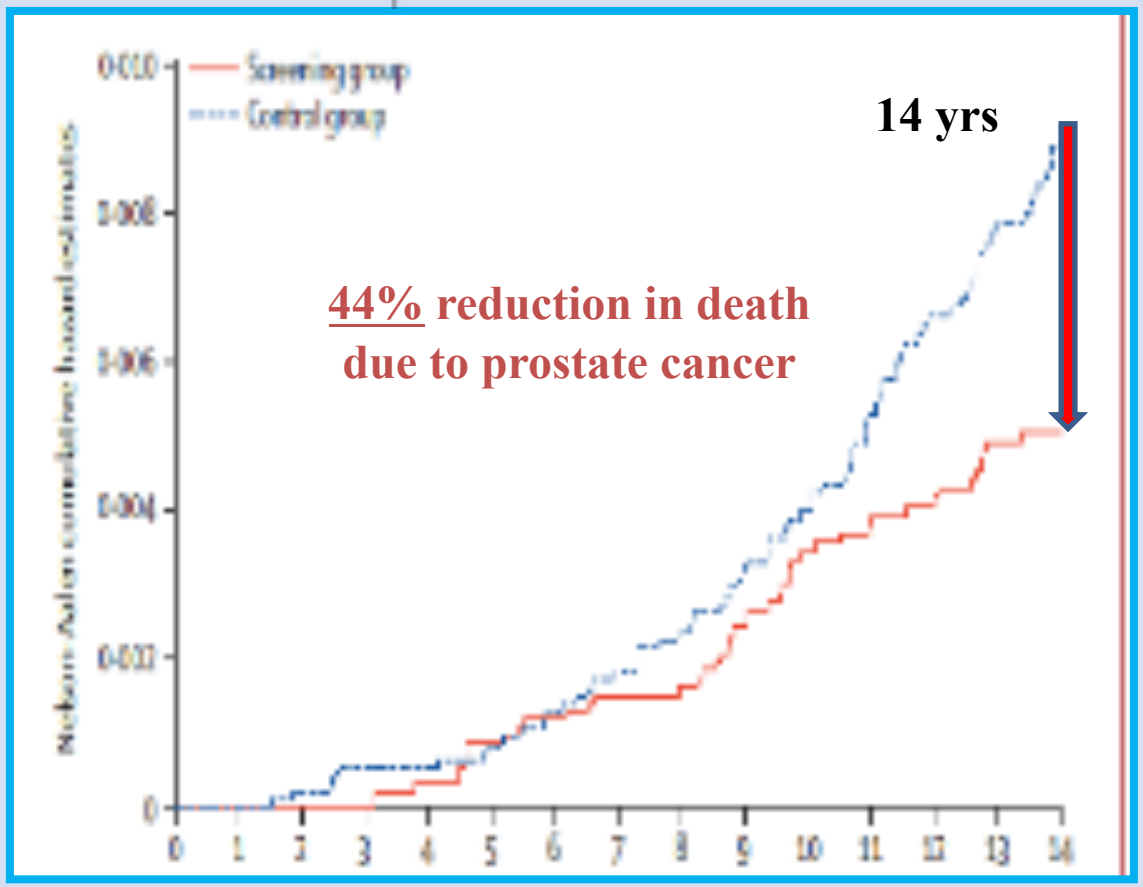
ERSPC: a relative risk reduction of 20% in prostate cancer-specific mortality

PLCO: no effect

Screening randomised clinical trials (RCT)

Göteborg trial





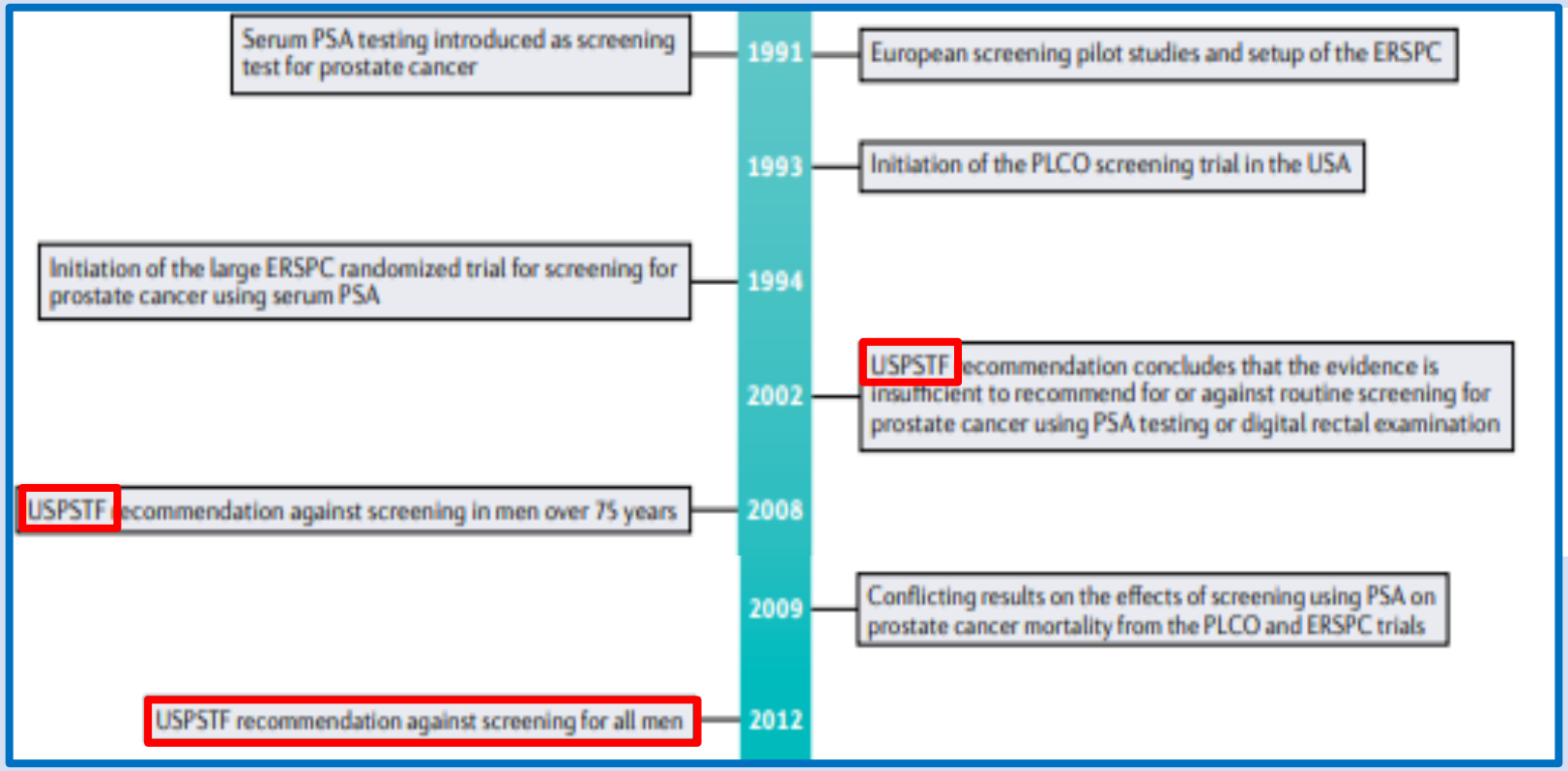
USPSTF 2012

"At the cost of Over Diagnosis and Overtreatment"

Serum PSA-based early detection of prostate cancer in Europe and globally: past, present and future

Hendrik Van Poppel , Tit Albreht , Partha Basu , Renée Hogenhout , Sarah Collen and Monique Roobol

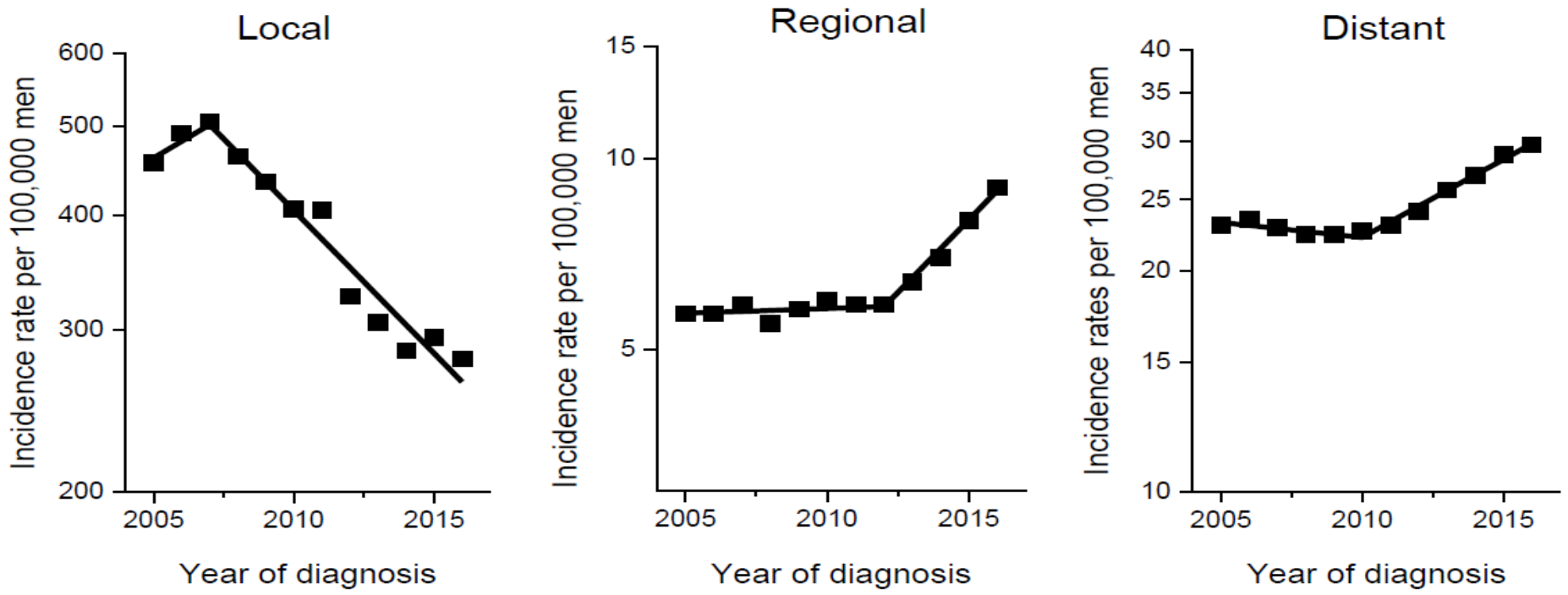
Nature Reviews Urology, 19:562-572, 2022



https://www.nature.com/articles/s41585-022-00638-6

PCa Incidence 5 years after USPSTF recommendations against Screening

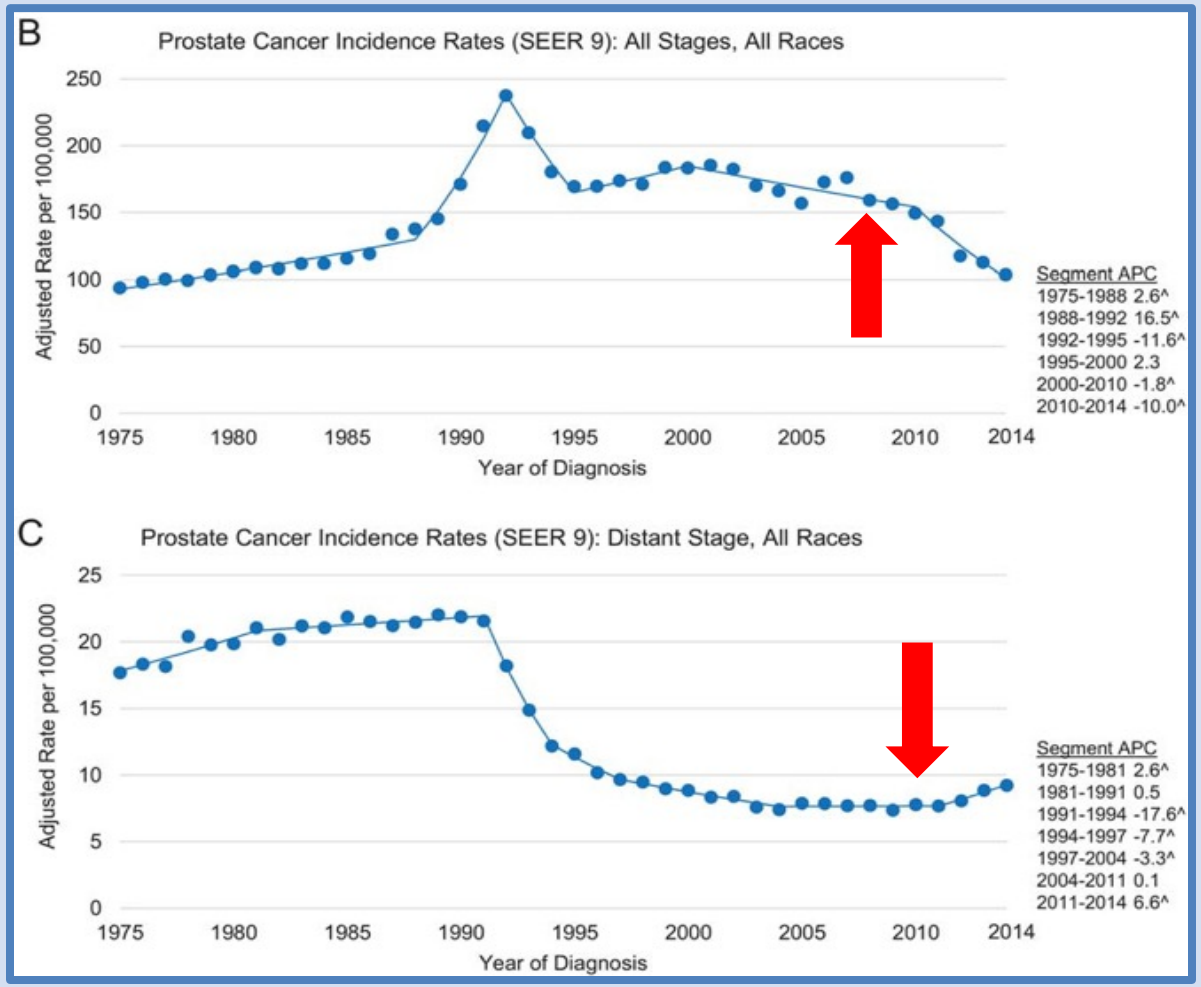
Figure 1



A. Jemal et al. JNCI, 2020 doi: 10.1093/jnci/djaa068

Impact of screening de-escalation in USA

- Screening rates started declining since 2008
- Incidence rates declined 6.5% per year from 2007
- Significant 6.6% rise in distant stage disease in 2011-14
- Mortality decline slowed down and then increased



Prostate Cancer in Europe

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PROSTATE CANCER

2010

417,000 ♂ ♀ 0

INCIDENCE
417,000 men in Europe are diagnosed with prostate cancer every year.

2,000,000

PREVALENCE
More than two million European men are living with prostate cancer.

92,200

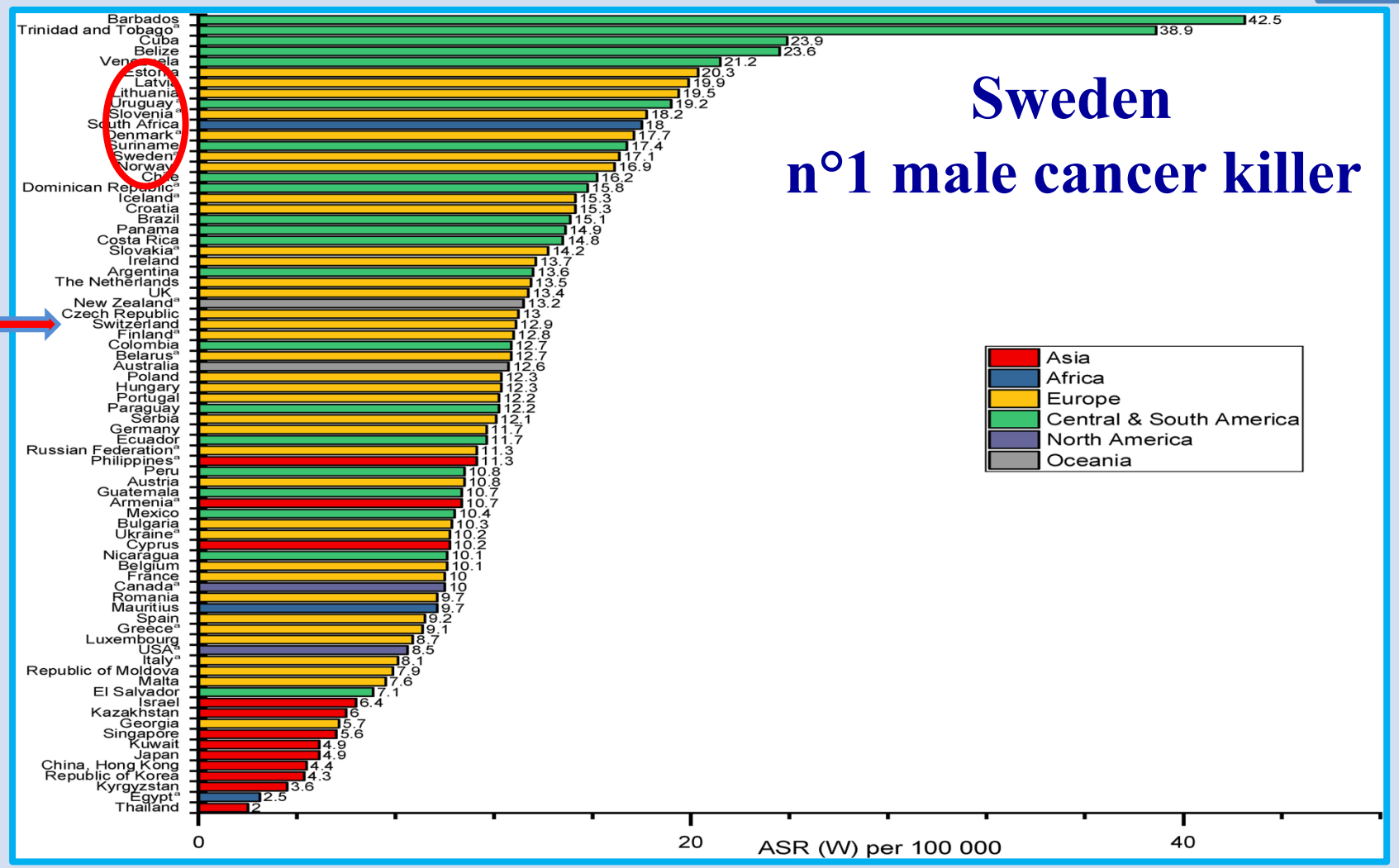
MORTALITY
92,200 European men die of prostate cancer each year.

€9 billion

COSTS
€9 billion in 2009, with health-care accounting for €5.8 billion.

107.000 ✚ in 2018 (!)

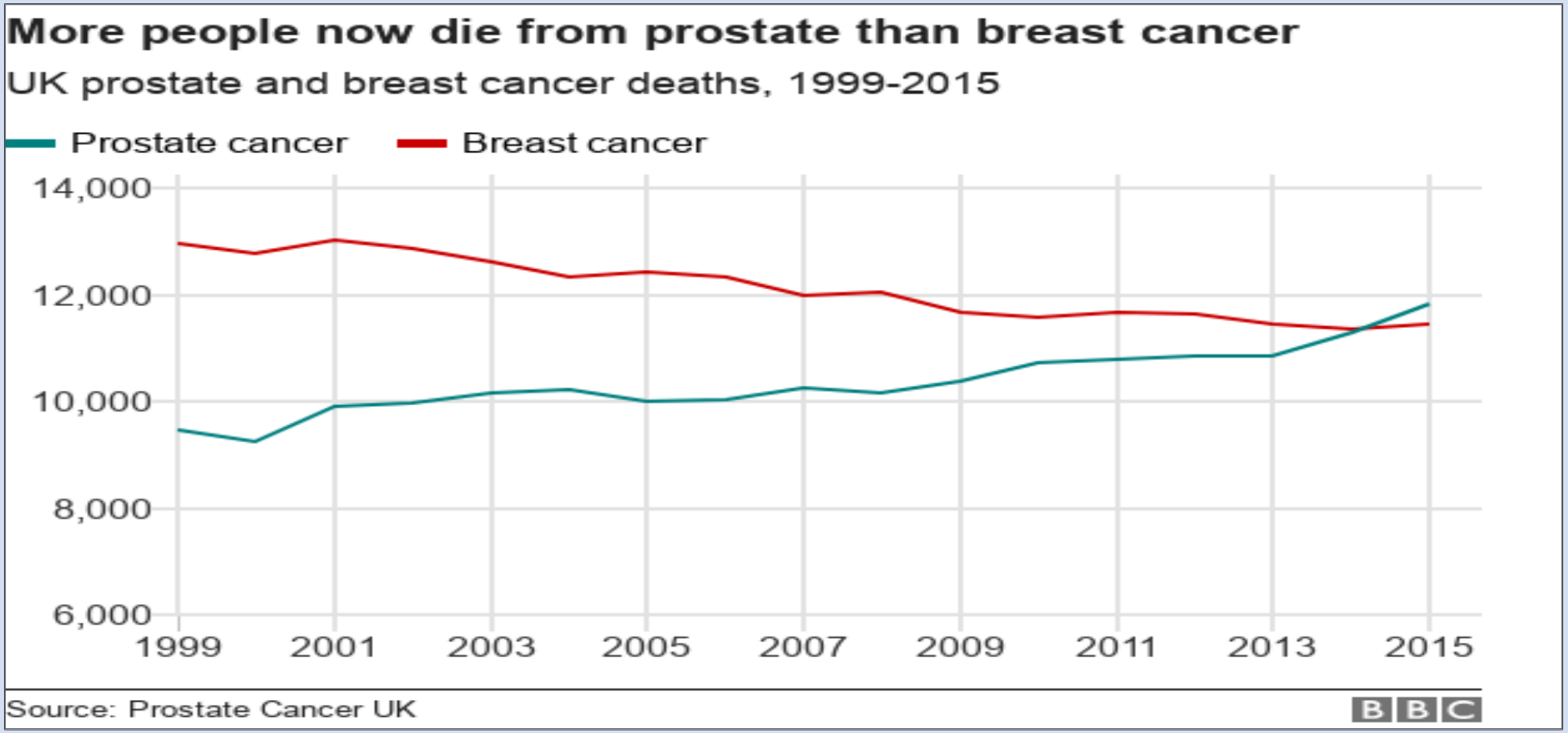
Prostate cancer mortality in the world



Sweden
n°1 male cancer killer

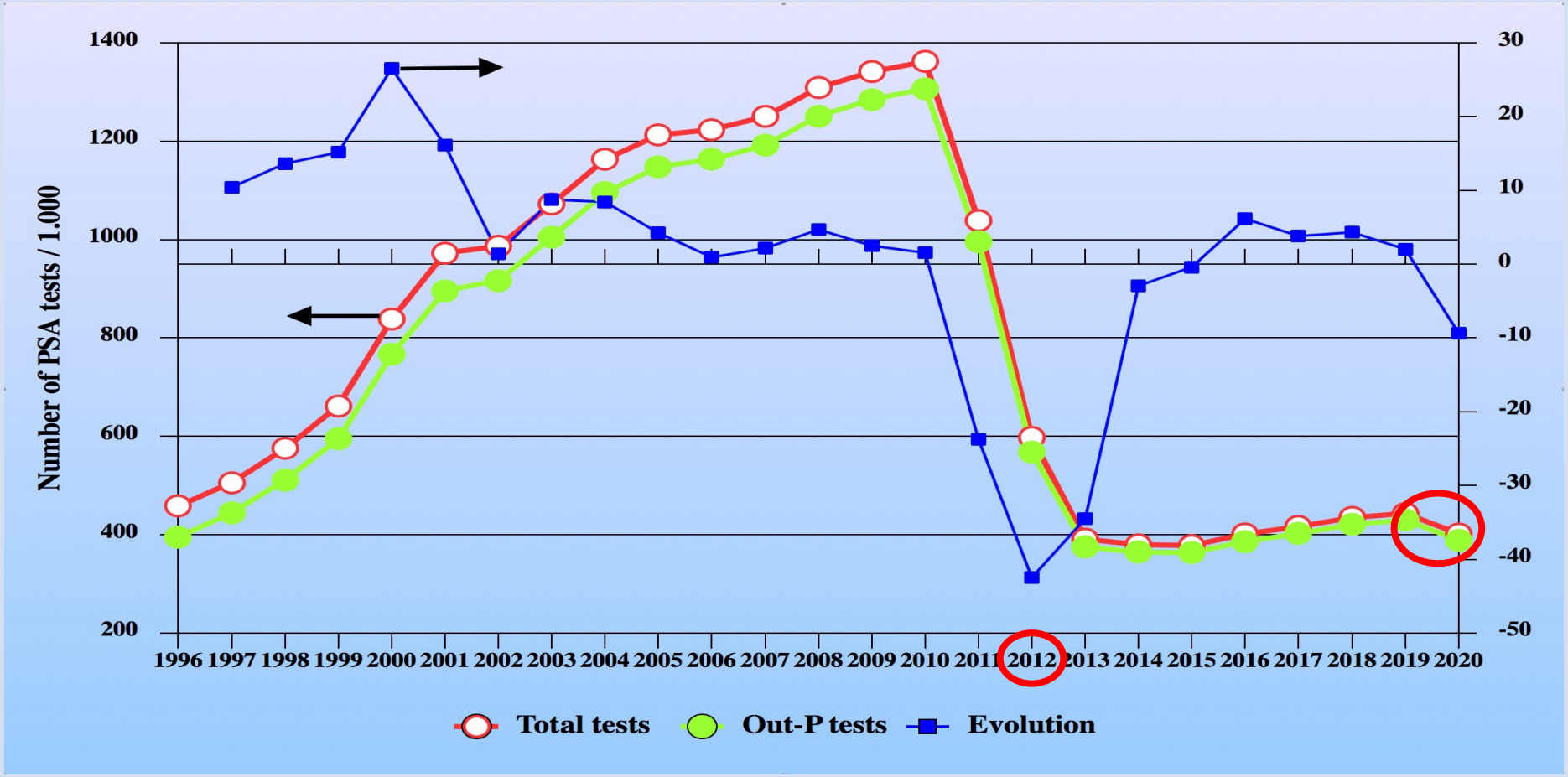
Culp MB, et al. Eur Urol 2020;77:38–52.

UK: PCa death increased by 17% in 10 y.



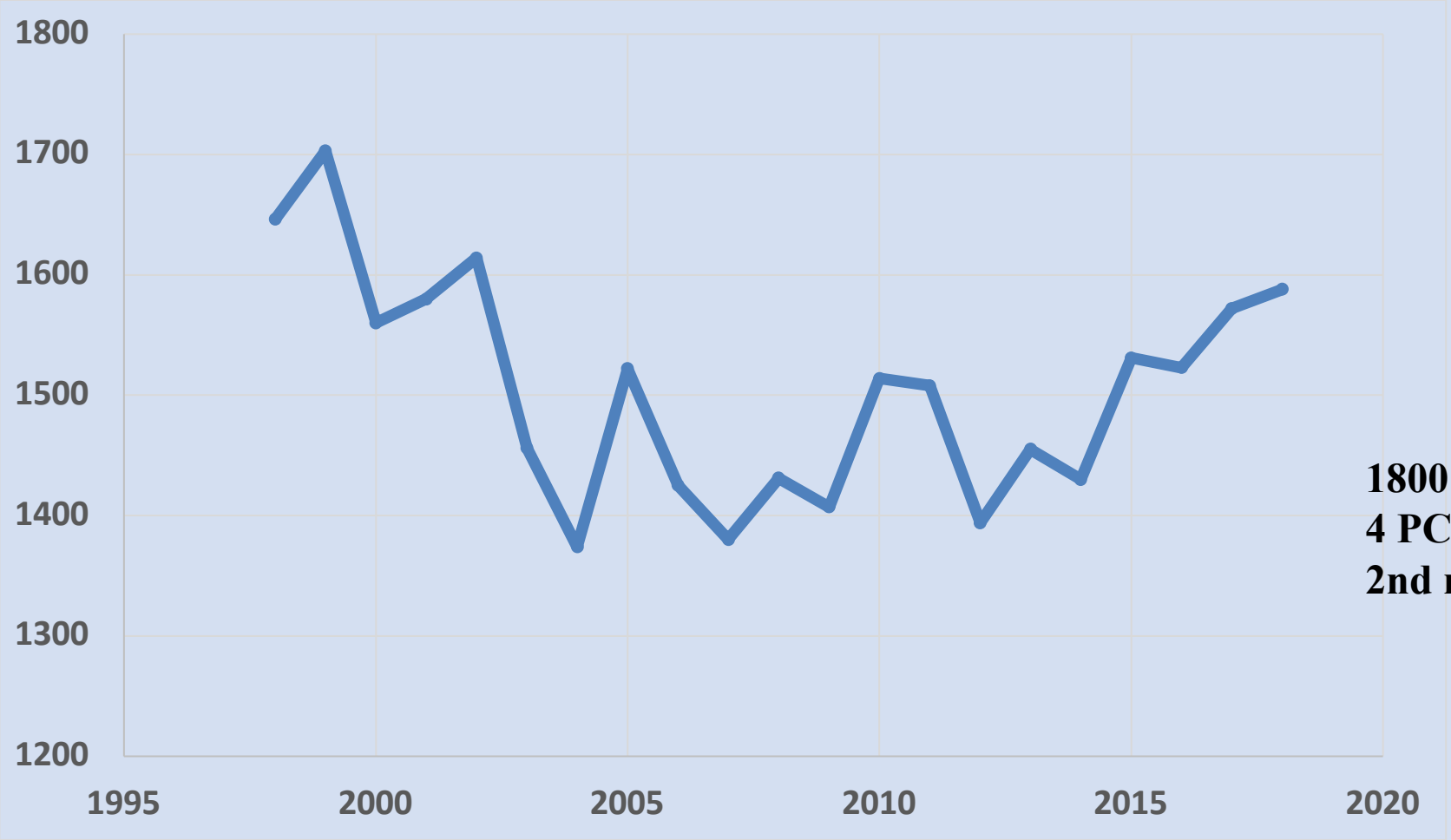
http://spcsg.ca/reading-material/prostate-cancer-deaths-overtake-breast-cancer/

PSA tests in Belgium



© Eric Briers

Prostate Cancer Mortality in Belgium



1800 PCa deaths/y
4 PCa deaths/d
2nd male killing ca

© Eric Briers

Why do we need Screening?

- PCa is the 1rst incident and 2nd (or 1rst) male killing cancer
- Because screening decreases mortality
- To decrease the increasing too late diagnosis
- Late stage disease is terrible and treatment is very expensive

What did EAU undertake?

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- Make the Policy makers aware of the problem

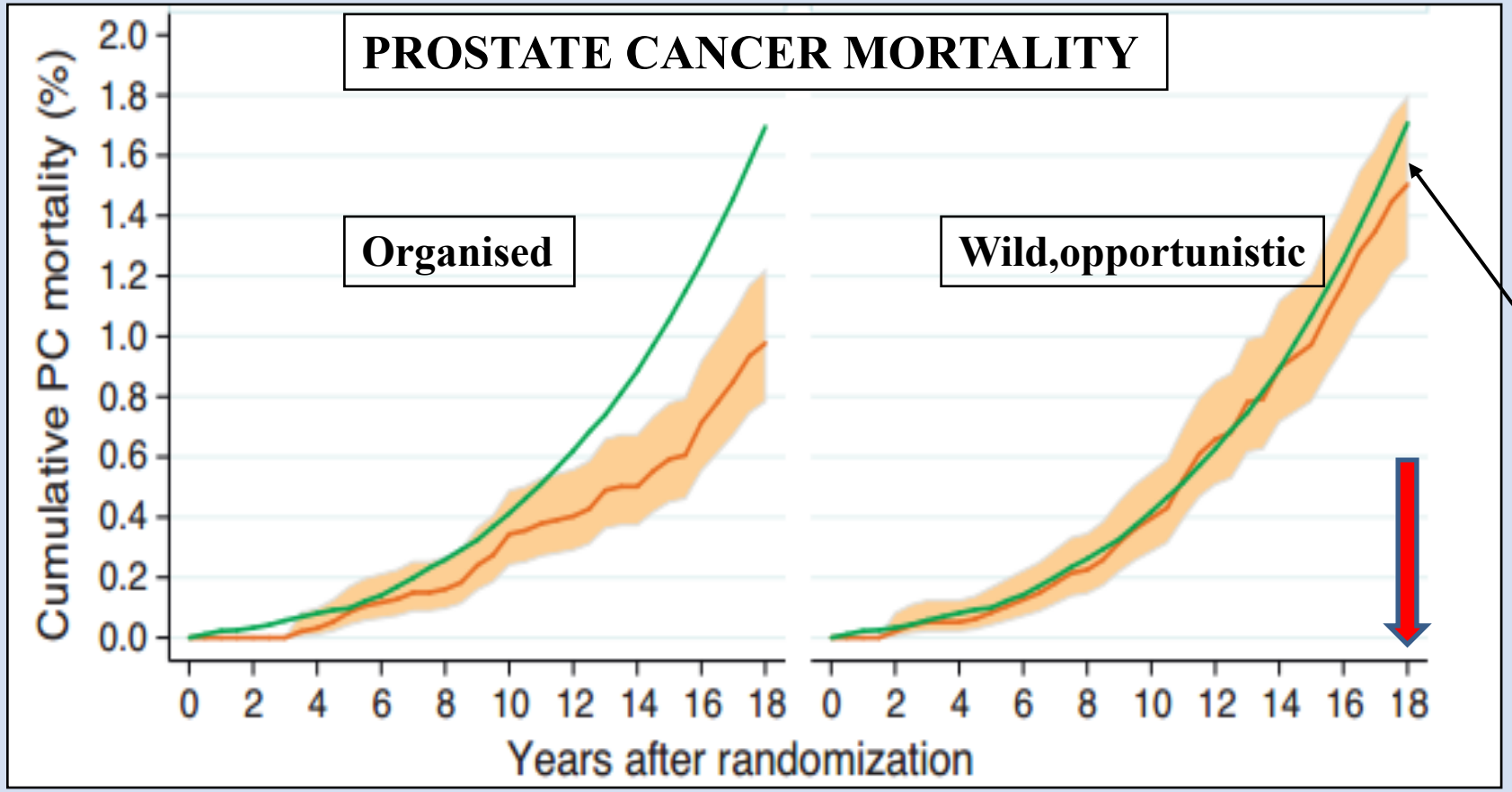
- Opportunity: **Beat Cancer Plan**

- Prepare a novel way of Early Detection

that avoids overdiagnosis and overtreatment

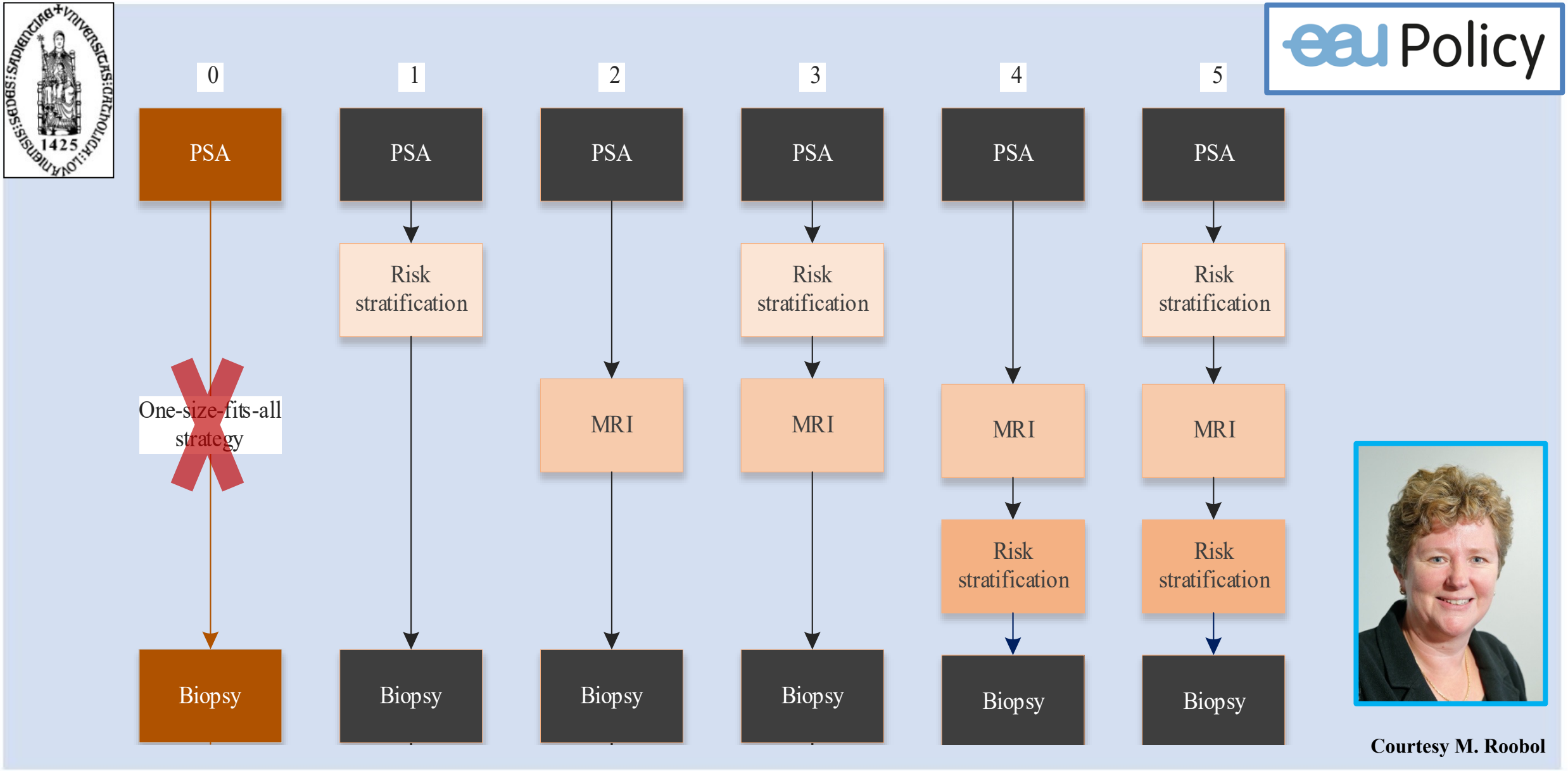
and that stops ongoing opportunistic screening

Wild screening (opportunistic) does not avoid overdiagnosis/overtreatment



No effect on PCa mortality and costly

Arnsrud Godtman R, et al. Eur Urol. 2015;68(3):354-60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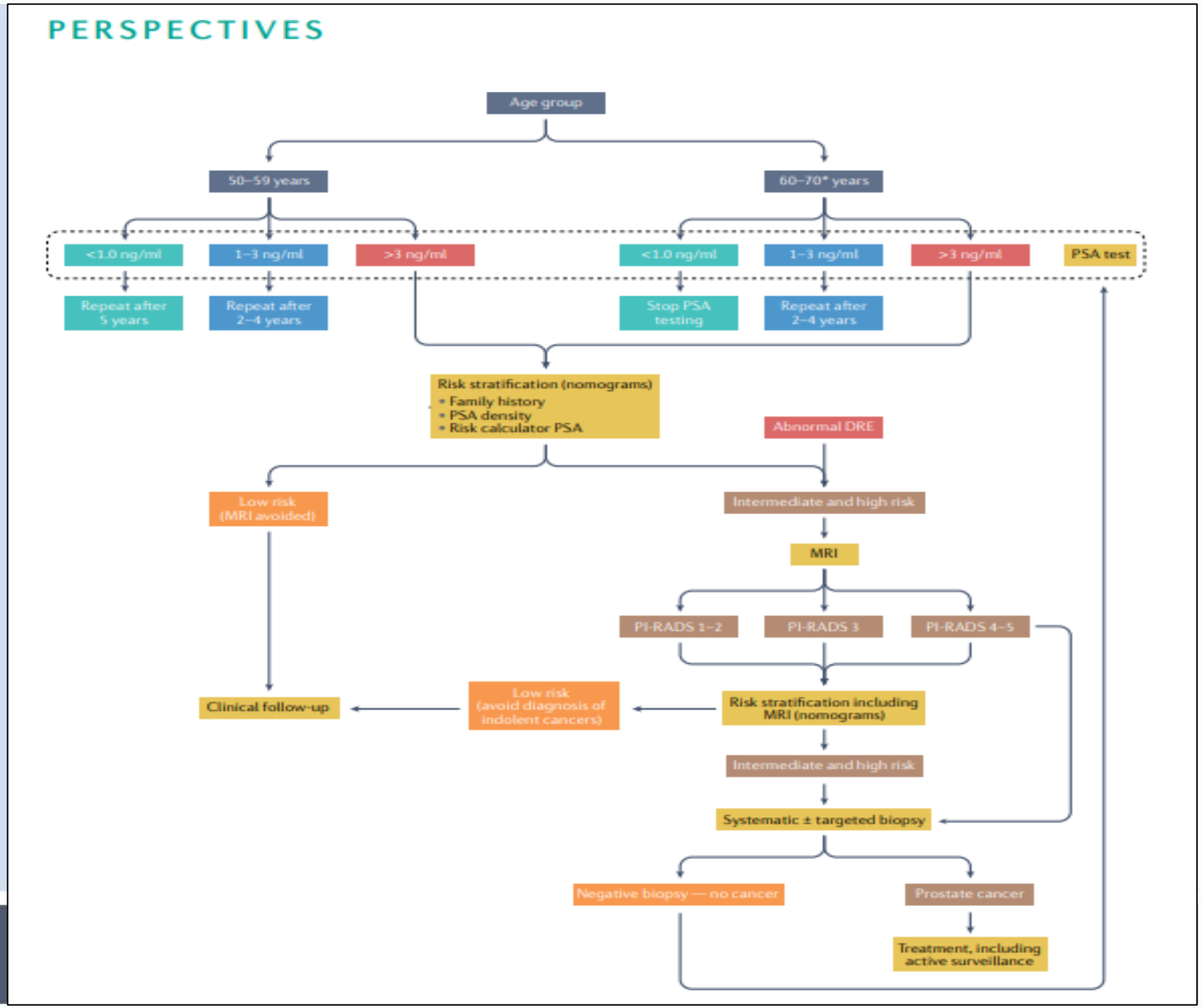
0
1
2
3
4
5
PSA
Risk stratification
MRI
Biopsy
One-size-fits-all strategy
Courtesy M. Roobol

The EAU Algorithm

H. Van Poppel, T. Albreht, P. Basu, R. Hogenhout, S. Collen, M. Roobol

Serum PSA-based early detection of PCa in Europe and globally:
Past, present and future.

Nature Reviews Urology, 2022
19: 562-72



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available at www.sciencedirect.com
journal homepage: www.europeanurology.com

European Association of Urology

Platinum Opinion

Early Detection of Prostate Cancer in 2020 and Beyond: Facts and Recommendations for the European Union and the European Commission

Hendrik Van Poppel [a,†,], Renée Hogenhout [b,†], Peter Albers [c,d], Roderick C.N. van den Bergh [e], Jelle O. Barentsz [f,‡], Monique J. Roobol [b,‡]*

- Proposal for population based, ORGANIZED, PSA initiated, risk stratified screening by invitation/information letter to all healthy unsuspicious men aged 50-70 years .

EAU Lobbying at European Parliament

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2017, 2019 and 2020

MOVEMBER®

EUROPA UOMO
The Voice of Men with Prostate Cancer in Europe

European Alliance for Personalised Medicine

eau European Association of Urology

URO ART BASEL

eau European Association of Urology

We succeeded in convincing that we need to … and that we can…

1. Decrease prostate cancer deaths (like breast, cervix, and colorectal)
2. Stop increasing rate of too-late diagnosis and reduce overdiagnosis
3. Stop costly and inappropriate/inefficient ongoing opportunistic testing

THE SOLUTION ≠ new RCT's

= ORGANIZED SCREENING

Ongoing screening trials in 2023

- **PROBASE** – Germany (PI: Peter Albers, n=50,000)
    - Risk-adapted PSA screening based on baseline PSA at age **45 or 50**
- **ProScreen** – Finland (PI: Anssi Auvinen, n=120,000)
    - Risk-adapted PSA screening (≥3 ng/ml), **4K**score (≥7.5%) and MRI
- **GÖTEBORG-2** – Sweden (PI: Jonas Hugosson, n=54,000)
    - PSA vs. PSA+MRI (≥1.8 vs ≥3 ng/mL, targeted vs targ.+ syst. bx)
- **STHLM-3** – Sweden (PI: Nordstrom N= 12,750)
    - MRI targeted versus standard biopsy with **STHLM-3** risk stratification
- **ReIMAGINE** – UK (PI: Caroline Moore, n=1,000)
    - Feasibility study of MRI as population-based screening

EAU, EU, and PCa screening

Cancer screening in Europe

Expert workshop 1

21 September 2021

What is the scientific basis for extending screening programmes to other cancers — including lung, prostate, gastric, oesophageal and ovarian cancers — and ensuring their feasibility throughout the EU?

SAPEA

Science Advice for Policy by European Academies

"The experts find the scientific basis for organised prostate cancer screening strong provided that the age criteria are appropriate. It is likely that MRI will become part of prostate screening in the future. We strongly recommend that we need to address the high levels of opportunistic PSA testing in order to reduce overdiagnosis and harm."

Cancer screening in Europe: Expert Workshop 1.
https://sapea.info/wp-content/uploads/cancer-screening-workshop-report-01.pdf.

EU Council New Cancer Screening Recommendations

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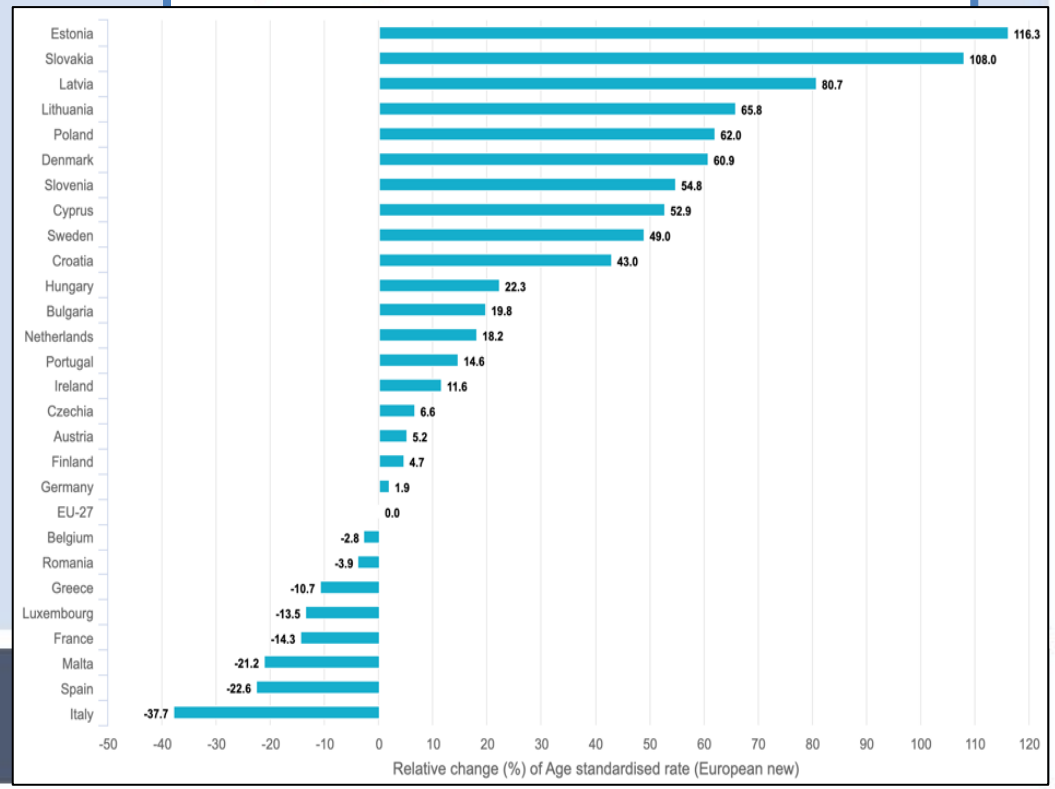
EU Council gives green light for EU-wide guidance and collaboration on early detection of Prostate Cancer

After a few weeks of suspense as EU member state governments intensely discussed and deliberated on the European Commission's proposal on 'A new EU approach on cancer detection', the Ministers of Health from all 27 EU Member States have today (9 December) agreed on the final version.



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EU Cancer Screening Recommendations

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Council of the European Union

Brussels, 29 November 2022
(OR. en)

14770/22

Interinstitutional File:
2022/0290(NLE)

SAN 608

NOTE

From:	General Secretariat of the Council
To:	Council
Subject:	Council Recommendation on strengthening prevention through early detection: A new EU approach on cancer screening replacing Council Recommendation 2003/878/EC *- Adoption*

"Prostate cancer: Considering the preliminary evidence and the significant amount of ongoing opportunistic screening, countries should **consider a stepwise approach**, including **piloting and further research**, to **evaluate the feasibility and effectiveness of the implementation of organised programmes** aimed at ensuring appropriate management and quality on the basis of prostate-specific antigen (PSA) testing for men, in combination with additional magnetic resonance imaging (MRI) scanning as a follow up test"

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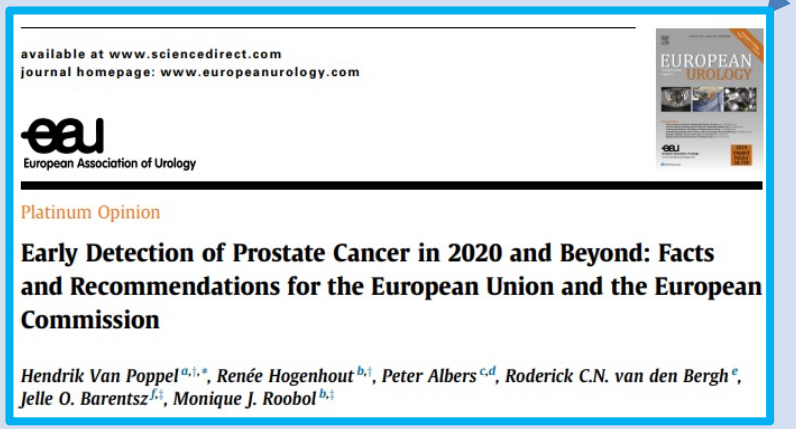
EU Council updates its recommendation 2003: start exploring the possibilities to screen for PCa

Praise u
SMART EARLY DETECTION OF PROSTATE CANCER

2017 → 2018 → 2021 → 2022 → 2022 → 2023 → Pilot studies →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SAPEA Evidence review

The EU4Health calls for proposals for innovative approaches to PCa screening

PRostate cancer Awareness and Initiative for Screening European Union

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- State of Play in EU and outside
- Needs assessment
- 5 Pilots in EU in 2024
- (Data other pilots)
- Report back to EC in 2026

Thank you for listening

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SMART EARLY DETECTION OF PROSTATE CANCER

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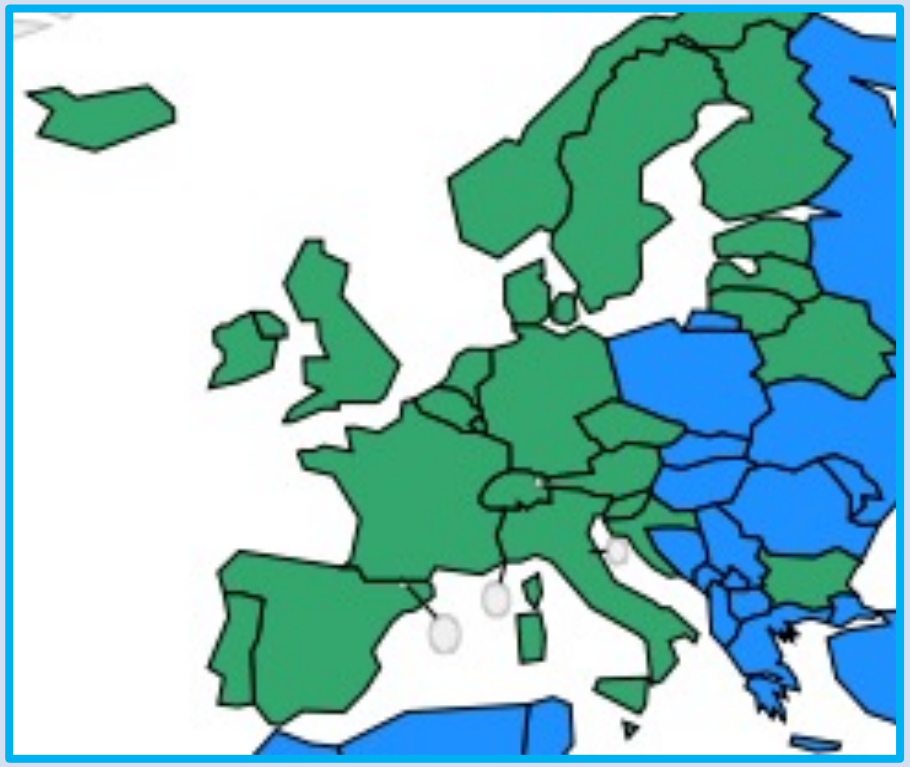
Why do we need Organized Screening?

- Non-organized screening:
  - does not avoid over-diagnosis and overtreatment
  - has a high cost
  - does not impact on mortality rates

- Obvious lack of public awareness and medical education in the EU

Top cancer per country



Prostate (121)
Lung (40)
Stomach (9)
Liver (8)

World PCa Mortality 2020

Lung (93)
Prostate (59)
Liver (17)
Stomach (14)

	Mortality	Incidence
2012	300,000	1.1 Million
2025	500,000	1.8 Million

Work Package Leads

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WP1

PROJECT COORDINATION

WP2

KNOWLEDGE HUB

Erasmus MC

WP3

MODEL FOR SCREENING

Erasmus MC

International Agency for Research on Cancer

World Health Organization

ERSPC

WP4

PILOT STUDIES

WP5

EVALUATION & SUSTAINABILITY

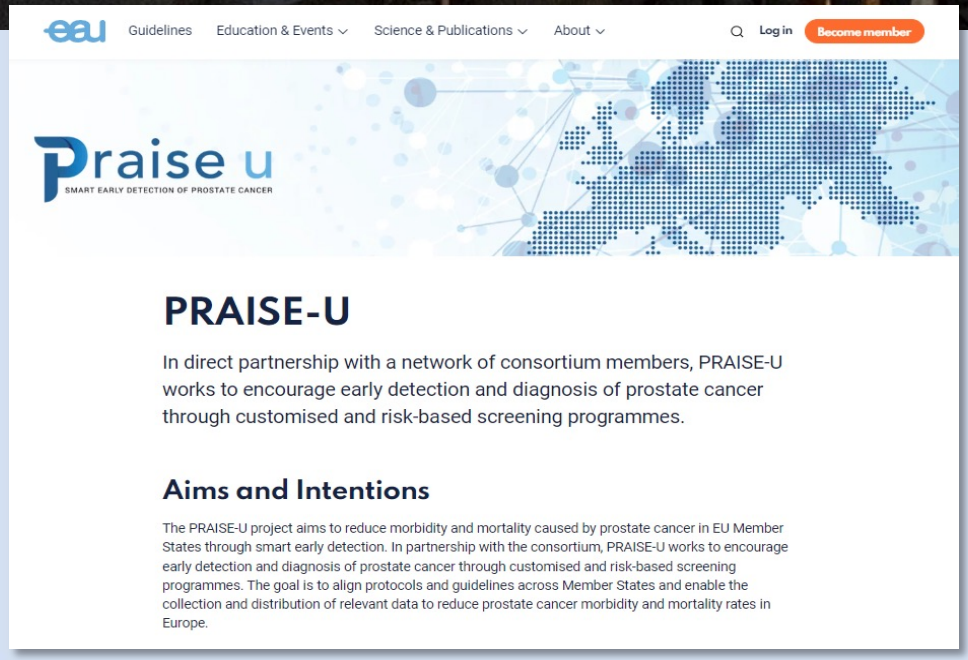
UMC Utrecht

ERSPC

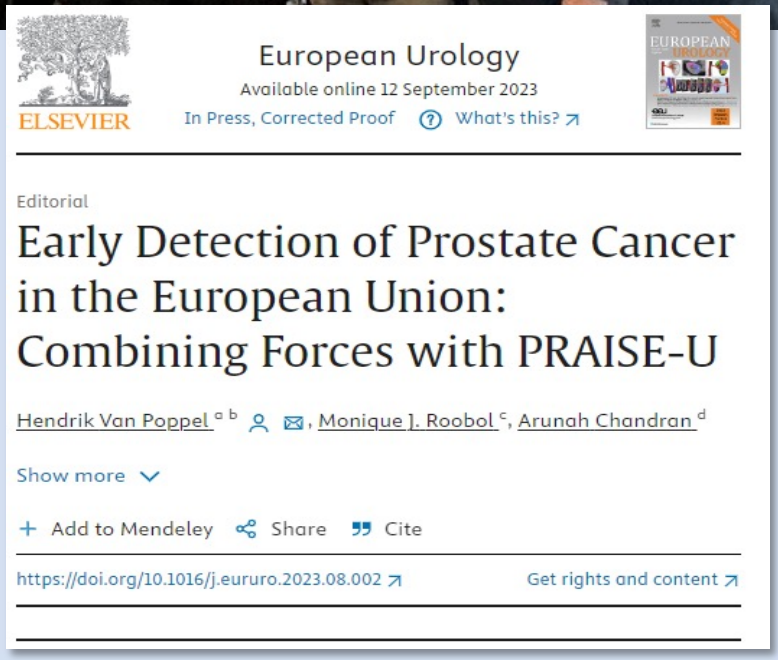
COMMUNICATION & DISSEMINATION

WP6

Kick-off meeting Brussel
25-26 April 2023



Website



Editorial

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www.praise-u.eu

Co-funded by the European Union

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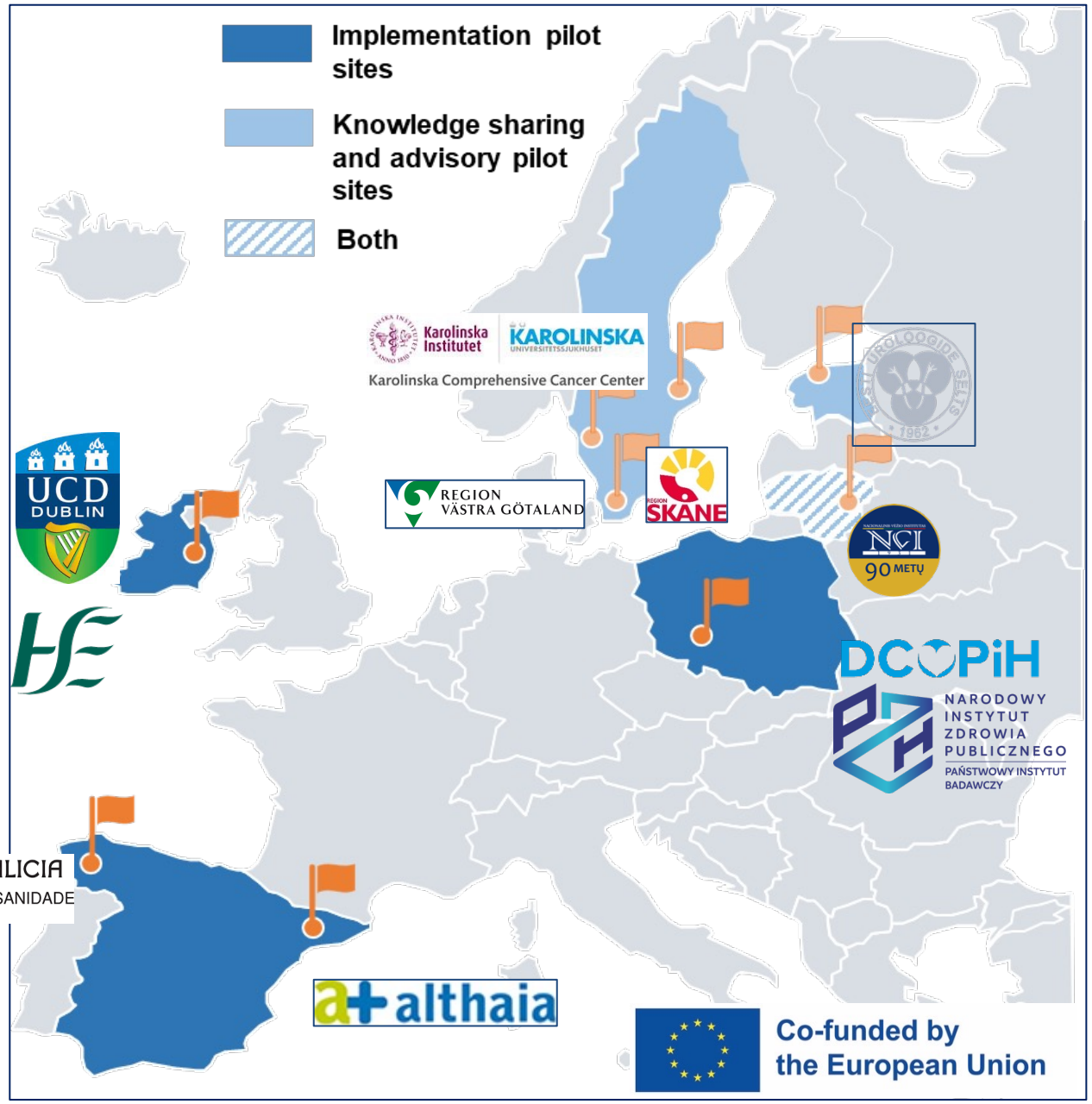

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- OPT in Sweden (regions)
- Start Screening in Czechia

- 5 Pilots within PRAISE-U

- Outside PRAISE-U in EU:
  - Germany
  - Italy
  - Slovenia
  - Slovakia
  - Croatia
  - Romania ...
- Outside EU:
  - Norway
  - Georgia
  - Switzerland
  - Moldova
  - Ukraine …

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Erasmus MC

International Agency for Research on Cancer

World Health Organization

Year 1

WP2: Knowledge hub:

- Living state-of-play document
- Needs assessment report
- Digital Platform
- Indicators of screening effectiveness

WP3: Development of model for screening:

- Capacity assessment
- Site-specific protocols
- Quality assurance and knowledge tools

Year 2

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WP4: Implementation pilots

Year 3

UMC Utrecht

WP5: Evaluation and Sustainability

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WP1 &6: coordination and communication

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SMART EARLY DETECTION OF PROSTATE CANCER

Consortium of 25 institutions from 12 Member States

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SMART EARLY DETECTION OF PROSTATE CANCER

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UMC Utrecht

Erasmus MC

Erasmus

ERSPC
European Randomized Study of Screening for Prostate Cancer

midt
regionmidtjylland

IARC/WHO

EUROPA UOMO
The Voice of Men with Prostate Cancer in Europe

NATIONAL CANCER INSTITUTE
NCI
1931

NACIONALINIS VĖŽIO INSTITUTAS
NCI
1931
90 METŲ

ÚZIS

REGION SKANE

european cancer ORGANISATION

DCOPiH

XUNTA DE GALICIA
CONSELLERÍA DE SANIDADE

althaia

UCD DUBLIN

MOVEMBER®

REGION VÄSTRA GÖTALAND

UNIVERSITEIT GENT

NARODOWY INSTYTUT ZDROWIA PUBLICZNEGO
PAŃSTWOWY INSTYTUT BADAWCZY

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Karolinska Institutet
KAROLINSKA UNIVERSITETSSJUKHUSET
Karolinska Comprehensive Cancer Center

-> Living knowledge platform on PCa screening

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40% will undergo treatment	15 will undergo active surveillance
60% will undergo treatment	21 will undergo treatment
80% of PIRADS 4-5, 27% of PIRADS 3 will have cancer	64 will be diagnosed with cancer(~60+ 4)
All PI-RADS 4-5 and 30% PI-RADS 3 undergo biopsy	90 will need to undergo biopsy (~75 +15)
All those who undergo MRIS, PI-RADS 4-5 (30%) and PI-RADS 3 (20%)	75 will be PI-RADS 4-5 and 50 will be PI-RADS 3
Among those who use ERSPC risk calc, 50% risk stratified as intermediate-high and undergo MRI	250 will be risk-stratified as intermediate-high
10% elevated PSA	500 elevated PSA >3
50% response rate	5000 undergo PSA
Invitation	10000 men

What do we hope?

Succeed with PRAISE-U in 3 years,

hopefully with the help of other EU member states pilot projects

Contact us:

s.collen@uroweb.org

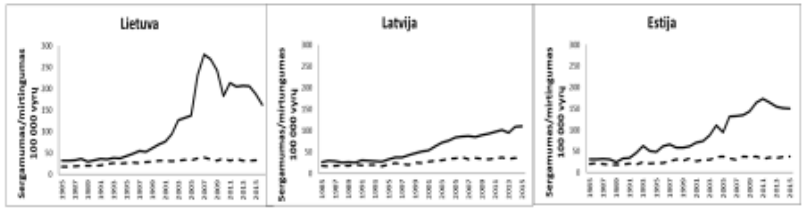
v.vasilyeva@uroweb.org

m.roobol@erasmusmc.nl

Hendrik.VanPoppel@kuleuven.be

Lithuania results of “organized” screening

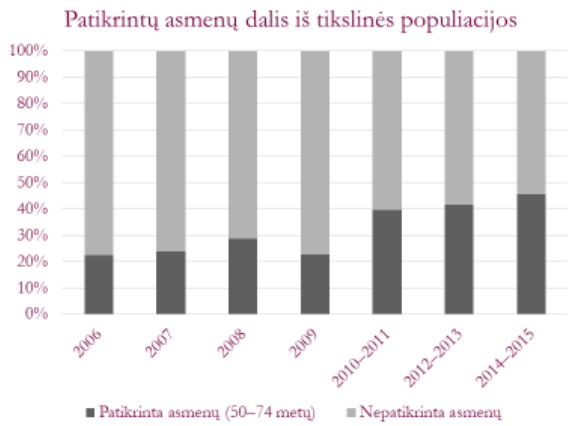
PCa incidence and mortality in Baltic States



Šalis	Sergamumas 2011 - 2015	Mirtingumas 2011 - 2015
Estija	158.3	35.1
Latvija	102.2	35.1
Lietuva	203.4	31.1

Patasius A, Innos K, Barchuk A, Ryzhov A, Leja M, Misins J, Yaumenenka A, Smailyte G. Prostate cancer incidence and mortality in the Baltic states, Belarus, the Russian Federation and Ukraine. BMJ Open. 2019 Oct 9;9(10):e031856

Screening coverage



Patasius A, Krilaviciute A, Smailyte G. Prostate Cancer Screening with PSA: Ten Years' Experience of Population Based Early Prostate Cancer Detection Programme in Lithuania. *J. Clin. Med.* 2020, *9*(12), 3826

Take home message

- Population-based prostate cancer screening in Lithuania needs to be monitored and evaluated due to high numbers of oportunistic screening
- Other algorithms of prostate cancer screening needs to be implemented

Patasius Ausvydas, Krilaviciute A, Smailyte G. Prostate Cancer Screening with PSA: Ten Years' Experience of Population Based Early Prostate Cancer Detection Programme in Lithuania. *J. Clin. Med.* 2020, *9*(12), 3826

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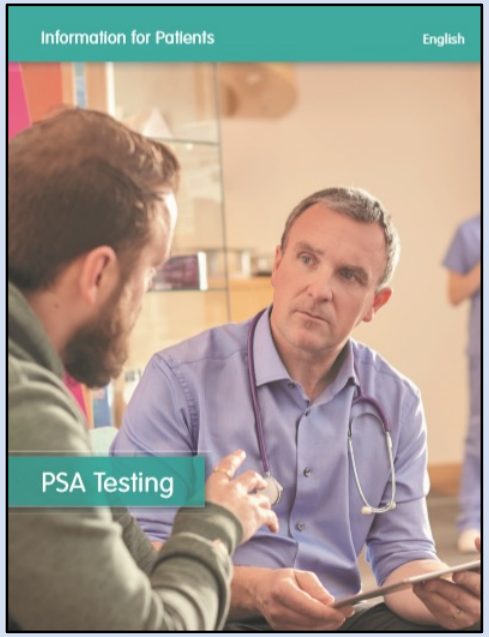
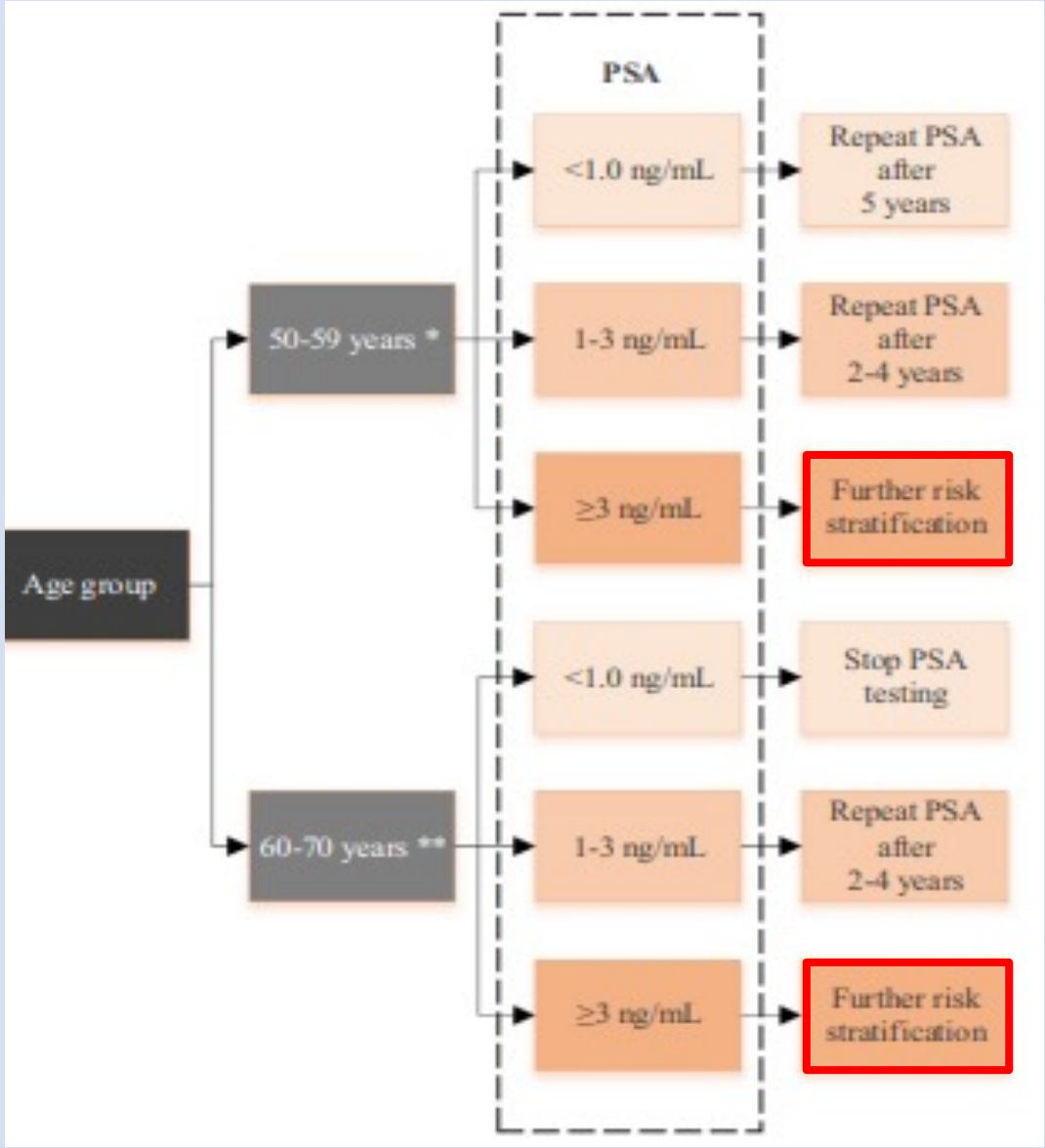
Early Detection in well informed men

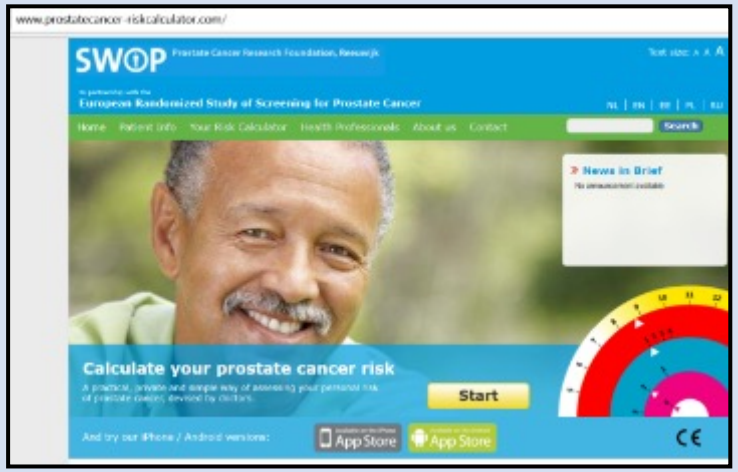


https://patients.uroweb.org/tests/psa-testing/2020



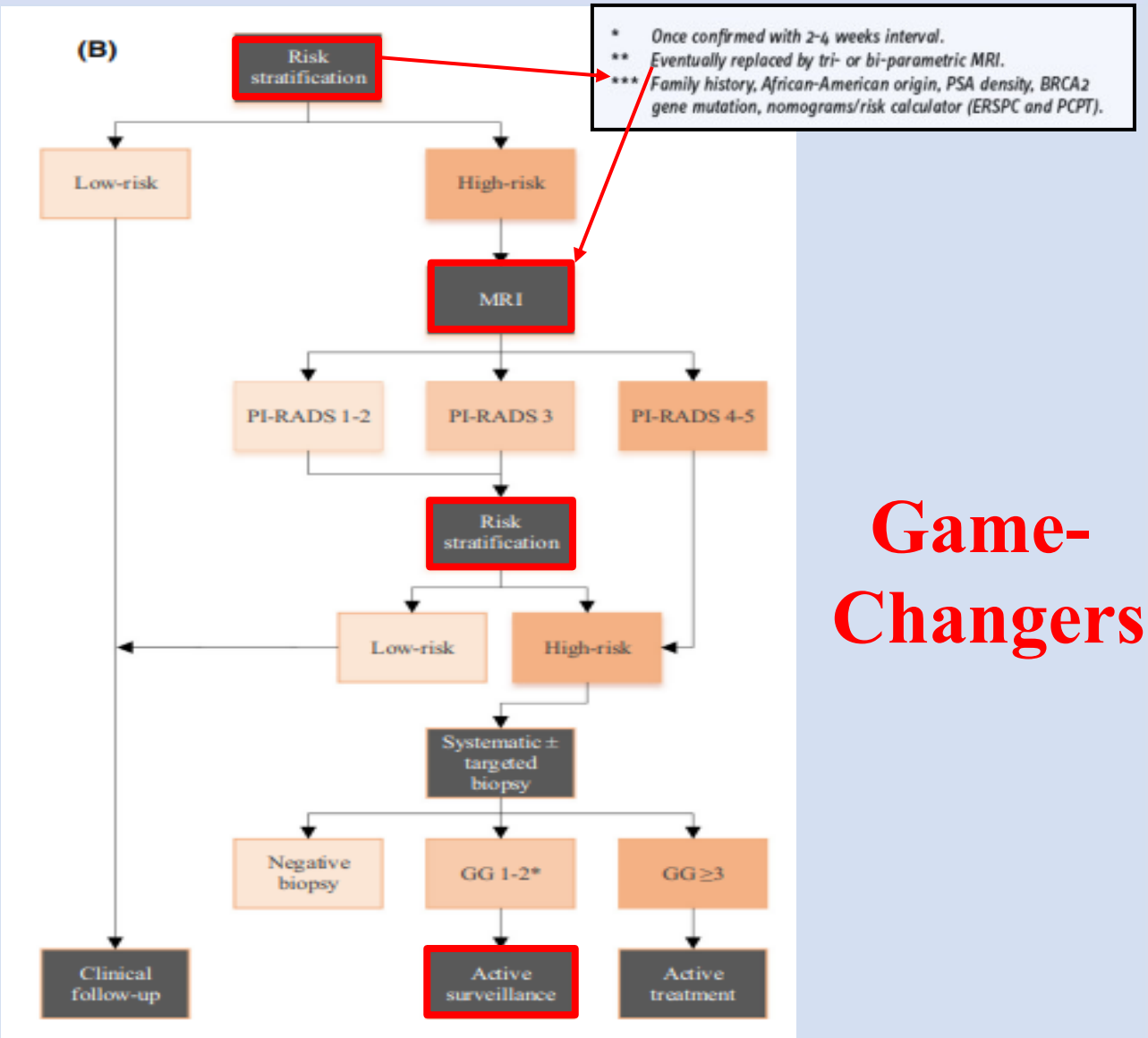
Elevated PSA ≠ Biopsy

Risk Calculators



Free, quality controlled Risk Calculators available online:

- ERSPC: www.prostatecancer-riskcalculator.com
- PCPT: Myprostatecancerrisk.com
- Canada: www.prostaterisk.ca



Game-Changers

H. Van Poppel et al.,
https///doi.org/10.1016/j.eururo.2020.12.010

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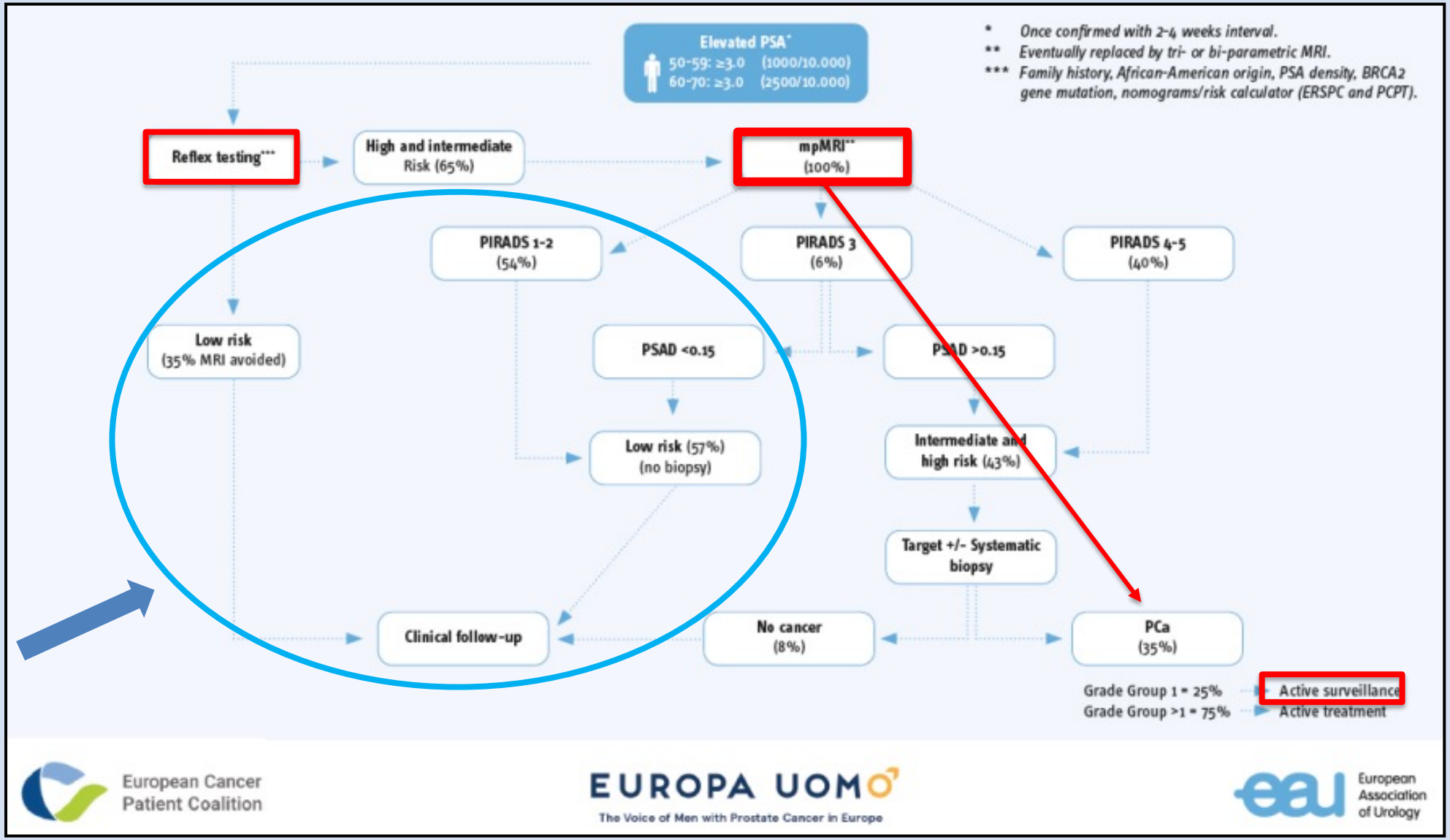

Biopsies avoided

S. Collen and H. Van Poppel, BJMO 2020

European Association of Urology

How to define it?
Organized ≠ Non-Organized

- Done by an organisation, an institute, with a letter of invitation/information (pro's and con's)
  - addressing all (non-suspect) men of a given age category (50-70y?)
- Keep healthy men out of the medical care system, do not make them patients yet:
  - instructions from the organisation to the man on how to continue as dictated by the algorithm, including risk stratification (risk calculators)
- When considered at risk of significant cancer…see a urologist, GP …

- *To avoid: over-D and T, too frequent checks/examinations, inappropriate age categories*

Organised prostate cancer testing (OPT)

- **OPT started September 2020: All 50-y-o offered OPT**
  - Västra Götalandsregionen (1.7 million people / 12,000 50-y-o men)
  - Skåne (1.4 million people / 9,000 50-y-o men)
- **OPT planned to start 2022**
  - Stockholm (2.4 million people)
  - Värmland
  - Norrland
  - Region Jönköpings län
- **OPT planned to start 2023**
  - 6-15 more regions

Education of Men and HCP's

° Men care less about health, EU men 42% do not know what the prostate is

- Info at social events, sports, …

- Task for Politicians and Patient Organisations
  (EuropaUomo, MaleCare, GAMH, Zero Cancer, USTOO, UK Chaps,
  PCa FoundationUS, MOVEMBER, Prostate Net, …)

° Medical (re)education

- Old belief in PSA>3 = Biopsy with over-D and T, Harm/Benefit discussion

- Explain Smart Screening: WONCA, UEMO, and
  local, regional and national GP organisations

Do we need Organized Screening Programs in Belgium?

- >11 Mio inhabitants, rising number of >65y, L.E. 79y
- Most common male cancer, 2nd most killing male cancer
- Heavy opportunistic screening is ongoing
- Meetings with Politicians in Belgium
- Pilot study in a region? In a city?...

What are we waiting for?

Praise u

SMART EARLY DETECTION OF PROSTATE CANCER

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