Cancer screening in primary care

John Brandt Brodersen, MD, GP, PhD, Professor

Centre of General Practice, University of Copenhagen
Primary Health Care Research Unit, Zealand Region
The Research Unit for General Practice, University of Tromsø

FACULTY OF HEALTH SCIENCES
UNIVERSITY OF COPENHAGEN

THE RESEARCH UNIT FOR GENERAL PRACTICE
Copenhagen

REGION ZEALAND

UNIVERSITY OF TROMSØ

PREVENTING OVERDIAGNOSIS
Winding back the harms of too much medicine

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PODC 2023

The 2023 International Preventing Overdiagnosis conference will be held at the Hotel Scandic, Copenhagen, Denmark 14 – 16 August. Call for Abstracts and Registration COMING SOON … Read More....


Alexandra Brandt Ryborg Jønsson
og John Brandt Brodersen
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Forhøjet kolesterol · Knogleskørhed · Angst
Kronisk tørre øjne · Restless legs syndrome
Svaghed · Overvægt · Korte øjenvipper
Osteopeni · Overspisning · Prædiabetes
Autisme · Skaldethed · Social fobi · ADHD
Vejvrede · Sukkersyge · Æggestokkræft
Depression · Udposning på tyndtarmspulsåren
Brystkræft · Modermærkekræft · Nyrekræft
Prostatakræft · Kræft i skjoldbruskkirtlen
SNART
ER VI ALLE
PATIENTER
Overdiagnostik i medicinske og
samfundsfaglige perspektiver
Samfunds
litteratur


Alexandra Brandt Ryborg Jønsson
and John Brandt Brodersen
SOON
WE WILL ALL
BE PATIENTS
Overdiagnosis in medical and
social sciences perspectives

The content of my presentation

- Setting the scene
- Pros and cons of screening
- Reduced mortality
- Overdiagnosis
- Longer morbidity
- Wrap up


CORE VALUES AND PRINCIPLES OF
NORDIC GENERAL PRACTICE/FAMILY MEDICINE
NORDIC FEDERATION OF GENERAL PRACTICE
1.
We promote continuity of doctor-patient relationships as a central organising principle.
The doctor-patient relationship is based on personal involvement and confidentiality. Continuity of care helps build mutual trust and enable high-quality person-centred care.
2.
We provide timely diagnosis and avoid unnecessary tests and overtreatment. Disease prevention and health promotion are integrated into our daily activities.
We care for our patients throughout their lives, tending to them through disease and suffering while encouraging progress toward health. We help patients understand their own health – to confront and manage their limitations, improve and maintain their well-being.
Overexamination, overdiagnosis, and overtreatment can harm patients, consume resources and indirectly lead to harmful underdiagnosis and undertreatment elsewhere. When equally effective interventions are available, we choose those that cost less.
3.
We prioritise those whose needs for healthcare are greatest.
We aim to minimise inequalities in how health services are provided. We organise our practices to devote the most time and effort to those whose needs for treatment and support are greatest.
4.
We practice person-centred medicine, emphasising dialogue, context, and the best evidence available.
We engage professionally with our patients' current life situations, biographical stories, beliefs, worries, and hopes. This helps us to recognise the links between social factors and sickness, and to deepen our understanding of how life and life events leave their imprint on the human body. We promote patients' capacity to make use of their individual and communal resources.
To safeguard our long-term resilience as caregivers, we attend to our own well-being.
5.
We remain committed to education, research, and quality development.
We engage actively in the training of our future colleagues We implement and promote research that is suited to the knowledge needs of General Practice/ Family Medicine. We take a constructively critical view of new knowledge and approaches within our areas of specialisation.
6.
We recognise that social strain, deprivation, and traumatic experiences increase people's susceptibility to disease, and we speak out on relevant issues.
Respect for human dignity is a prerequisite for healing and recovery.
We acknowledge that many circumstances contribute to health inequalities: childhood experiences, housing, education, social support, family income/ unemployment, community structures, access to health services, etc.
We recognise our duty to speak out publicly on specific factors that cause or worsen disease, increase inequality in health outcomes, or make resources less accessible to certain people.
7.
We collaborate across professions and disciplines while also taking care not to blur the lines of responsibility.
We engage actively in developing and adapting effective ways to cooperate.
Read more about The Nordic Federation of General Practice on www.nfgp.org

CORE VALUES AND PRINCIPLES OF NORDIC GENERAL PRACTICE/FAMILY MEDICINE

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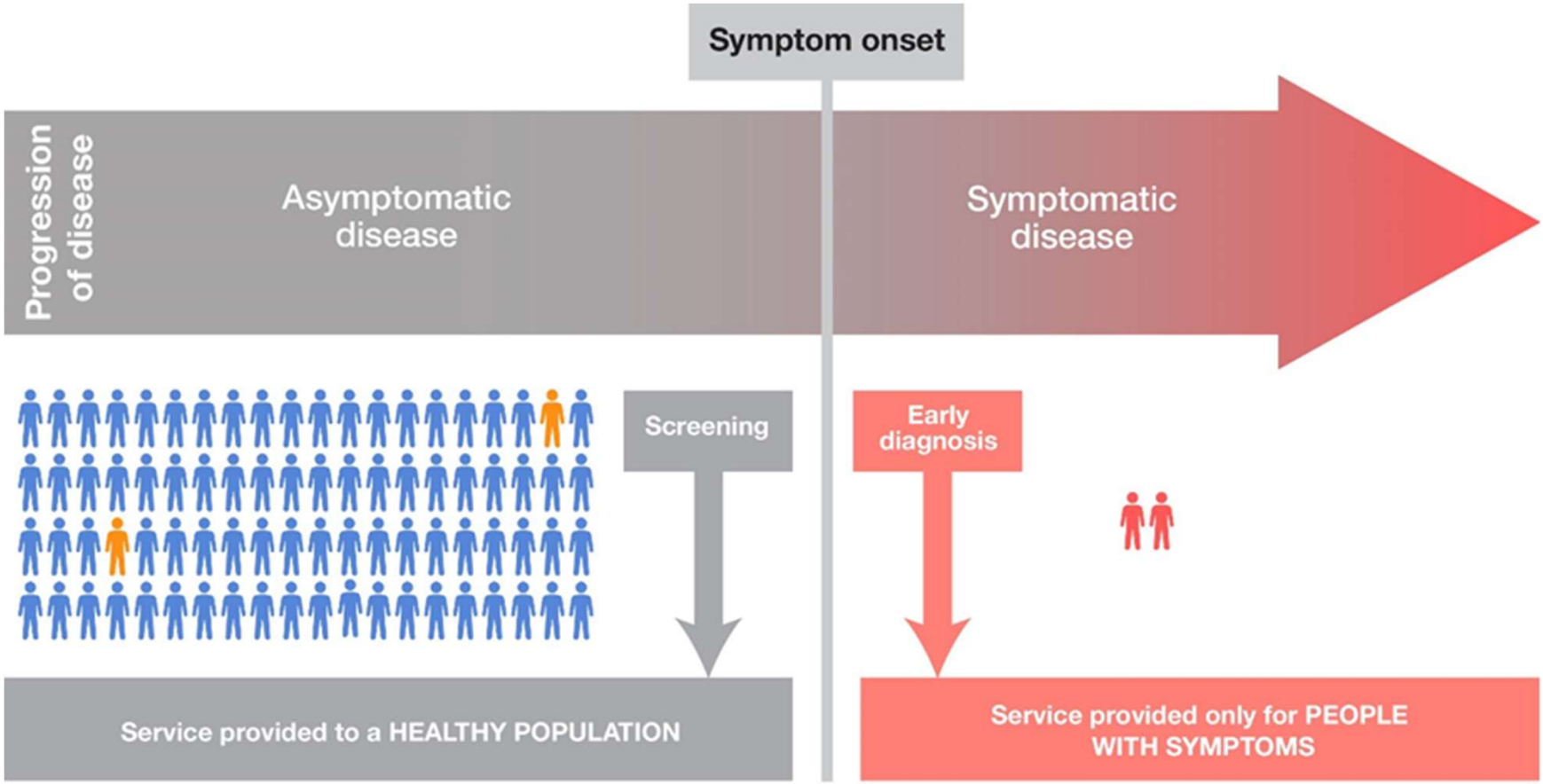
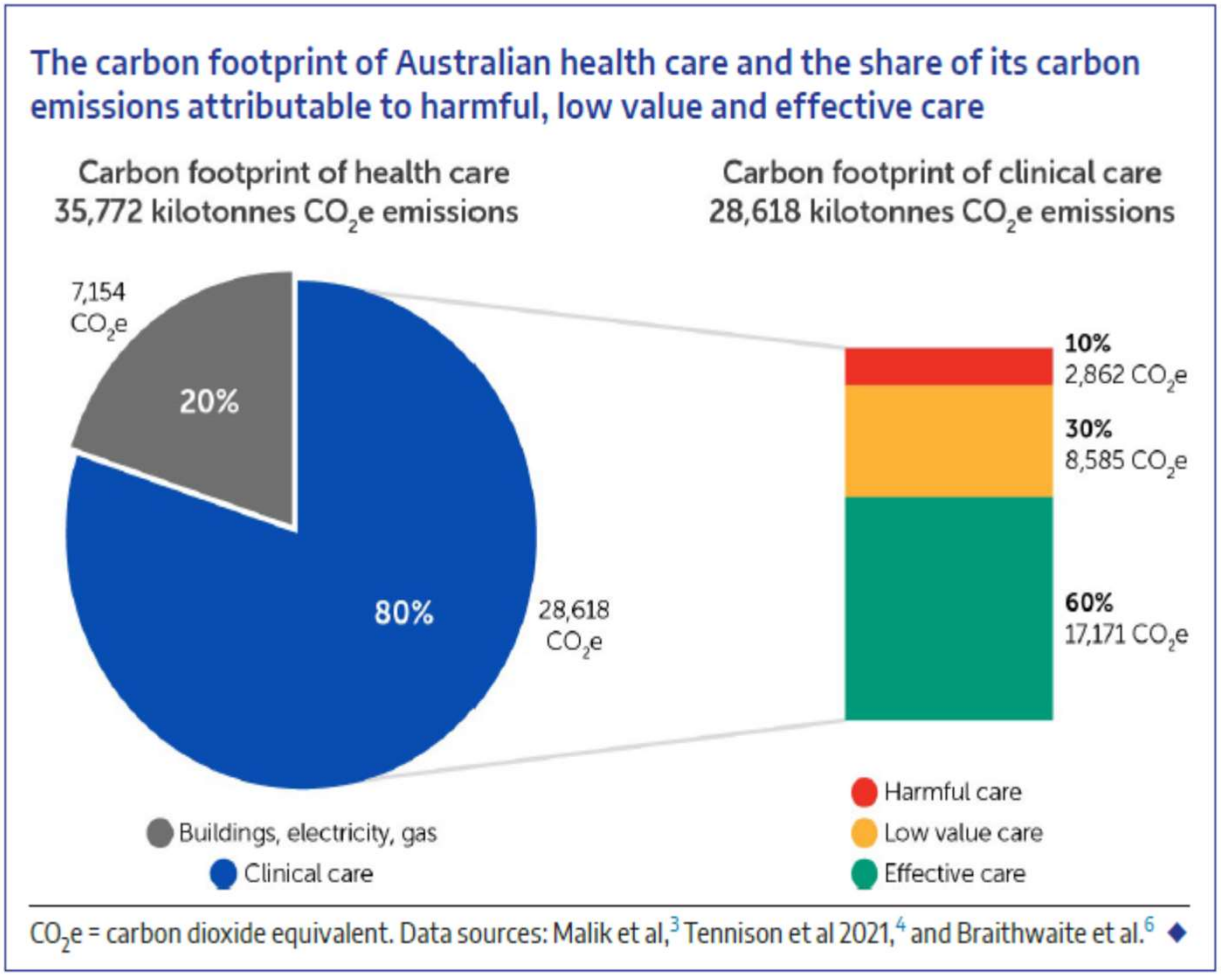
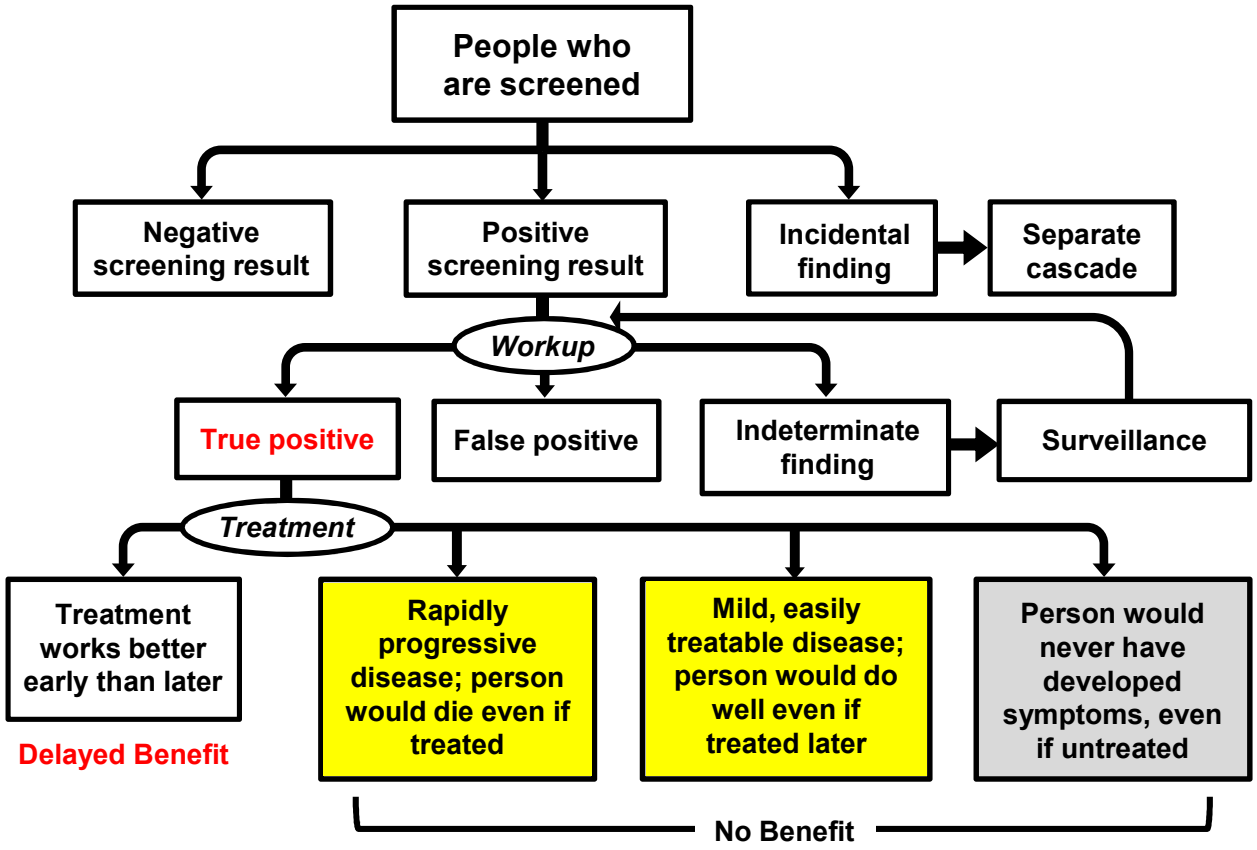
Screening & Early diagnosis





Barratt et al (2022). "High value health care is low carbon health care." Med J Aust 216(2): 67-68.

The Cascade of screening



Harris, R. P., et al. (2015). "A value framework for cancer screening: advice for high-value care from the American College of Physicians." Ann Intern Med **162**(10): 712-717.

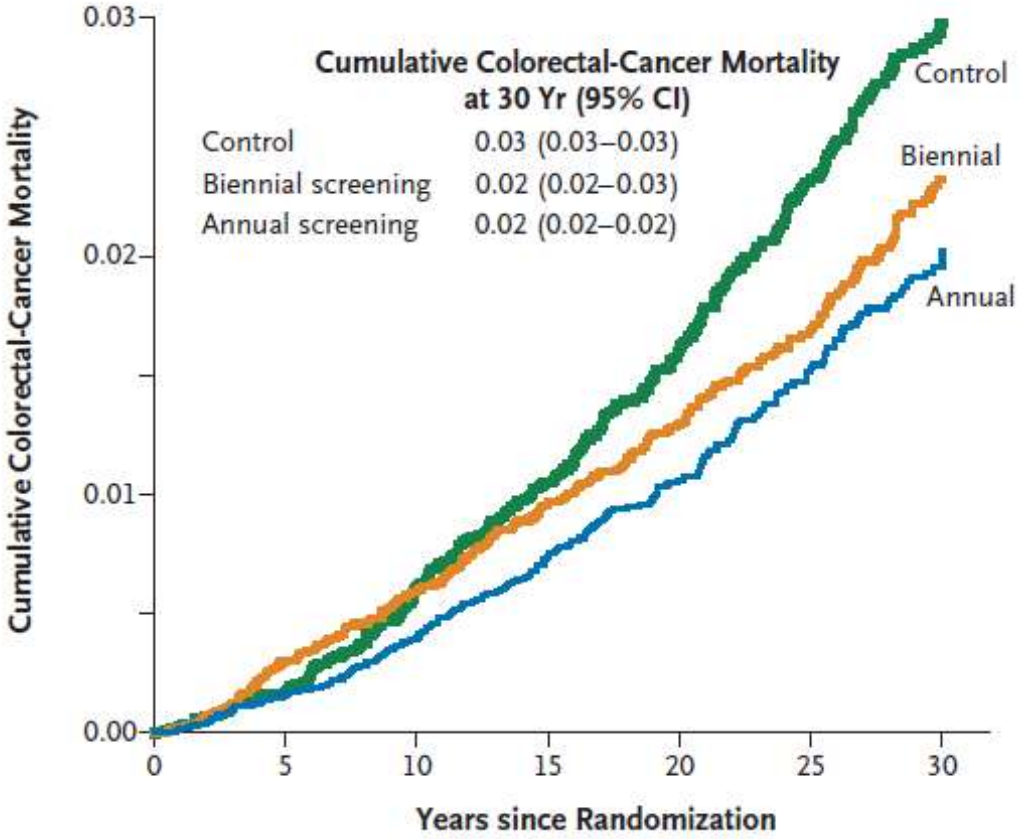
Pros and cons of screening

- Reduced mortality
- Reduced morbidity
- Reduced incidence
- Less radical treatment

- Longer morbidity
- Overdiagnosis
- Overtreatment
- False negatives
- False positives
- Induced disease
- Increase fear for being sick
- Increase mortality
- Increase morbisity

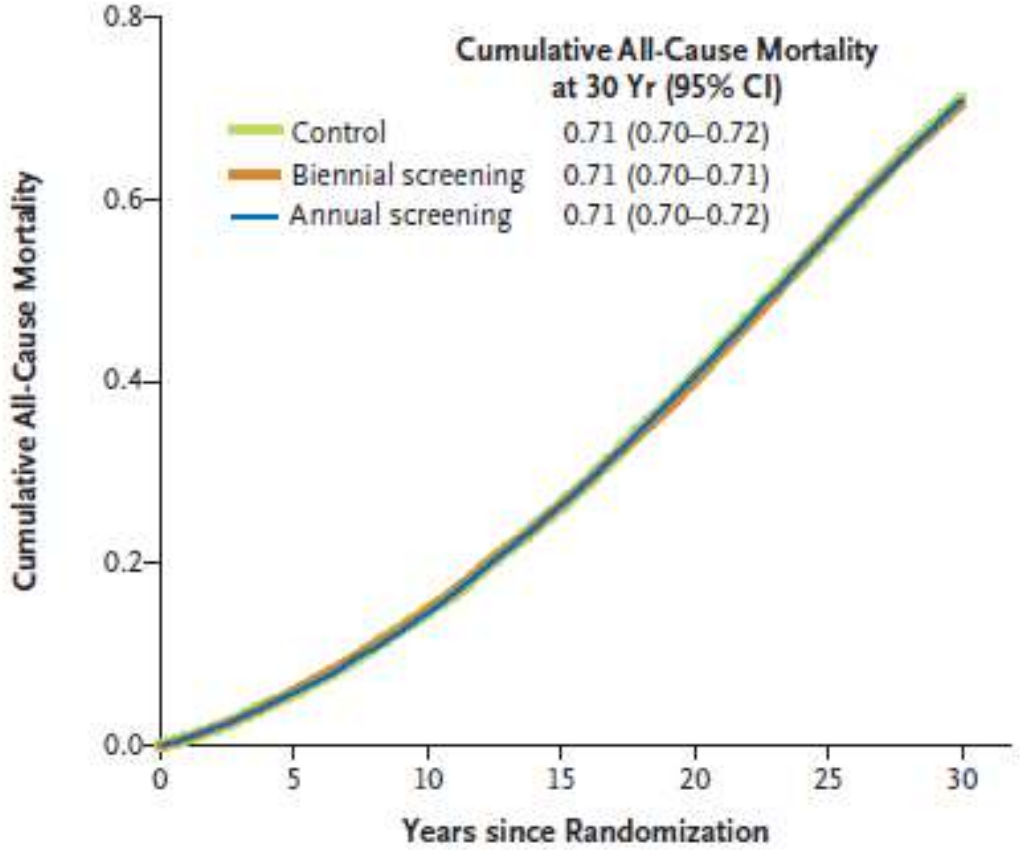
Brodersen et al. The benefits and harms of screening for cancer with a focus on breast screening. *Pol.Arch.Med.Wewn. 2010.*

FOBT screening for colorectal cancer



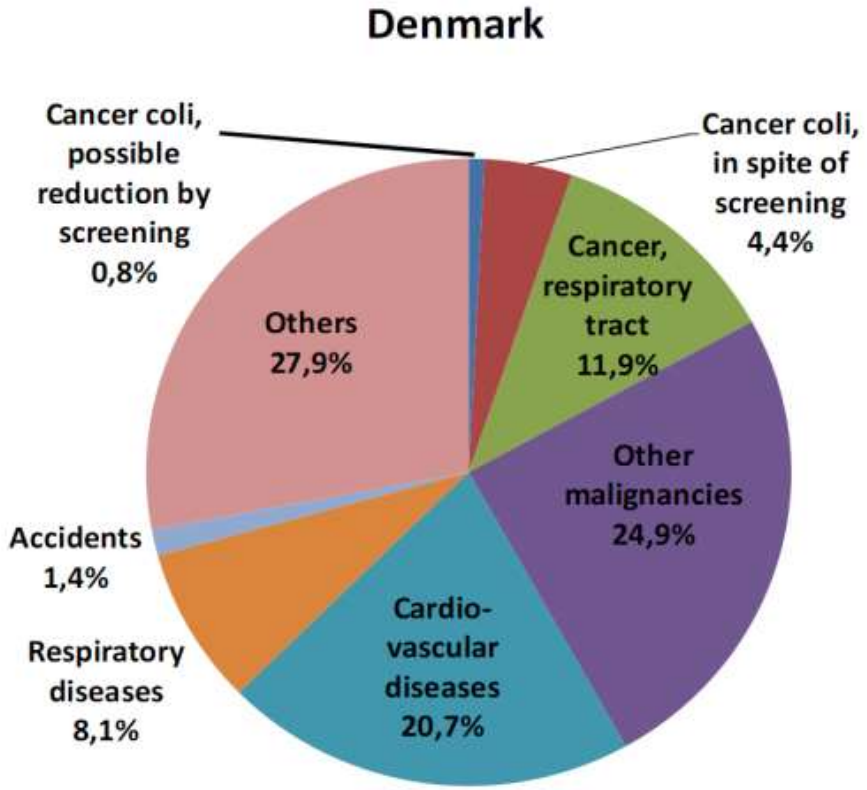
Shaukat et al. Long-term mortality after screening for colorectal cancer. *N.Engl.J.Med. 369 (12):1106-1114, 2013.*

FOBT screening for colorectal cancer



Shaukat et al. Long-term mortality after screening for colorectal cancer. *N.Engl.J.Med. 369 (12):1106-1114, 2013.*

Causes of death: aged 55-74



Sigurdsson, Getz, Sjönell, Vainiomäki, Brodersen. Marginal public health gain of screening for colorectal cancer. 19(2):400-7, 2013.

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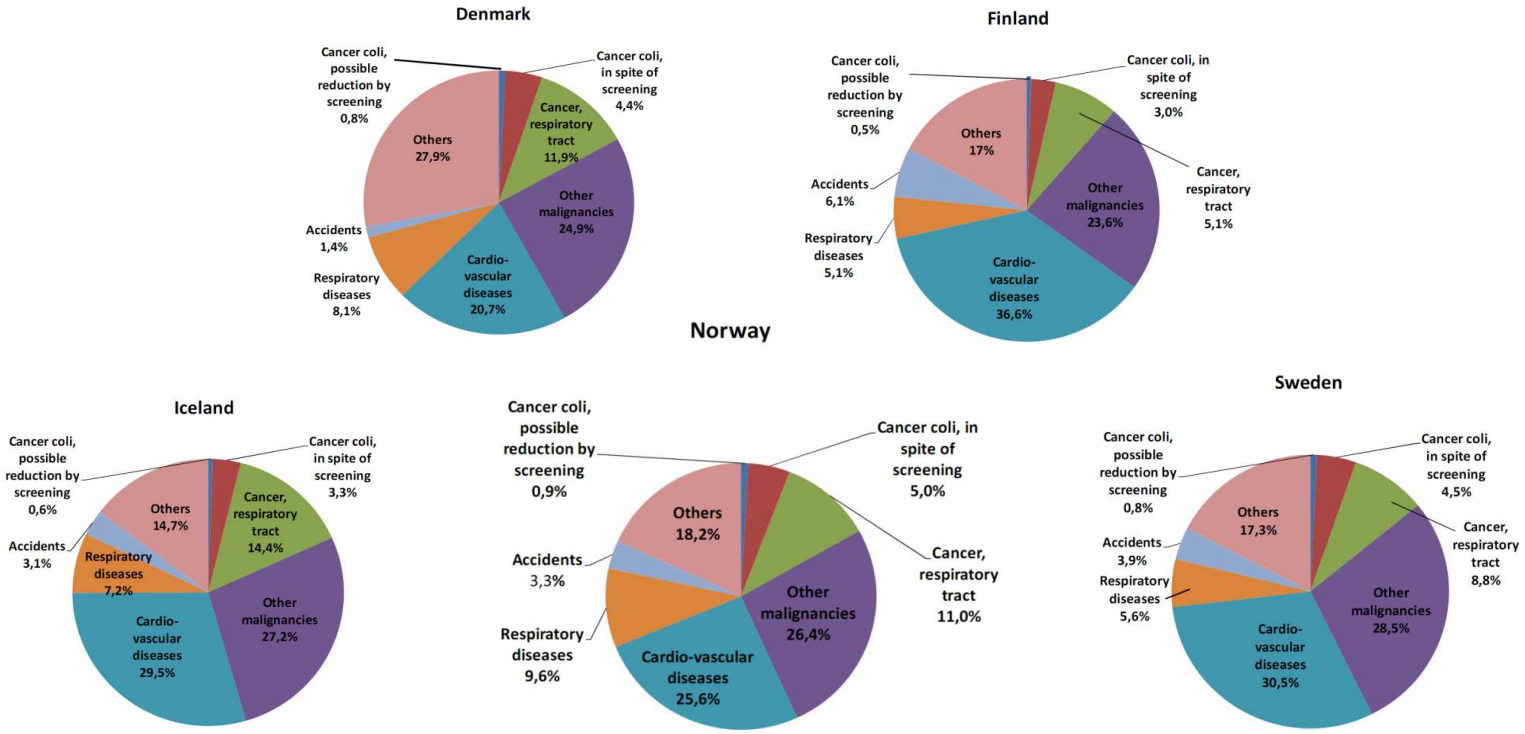
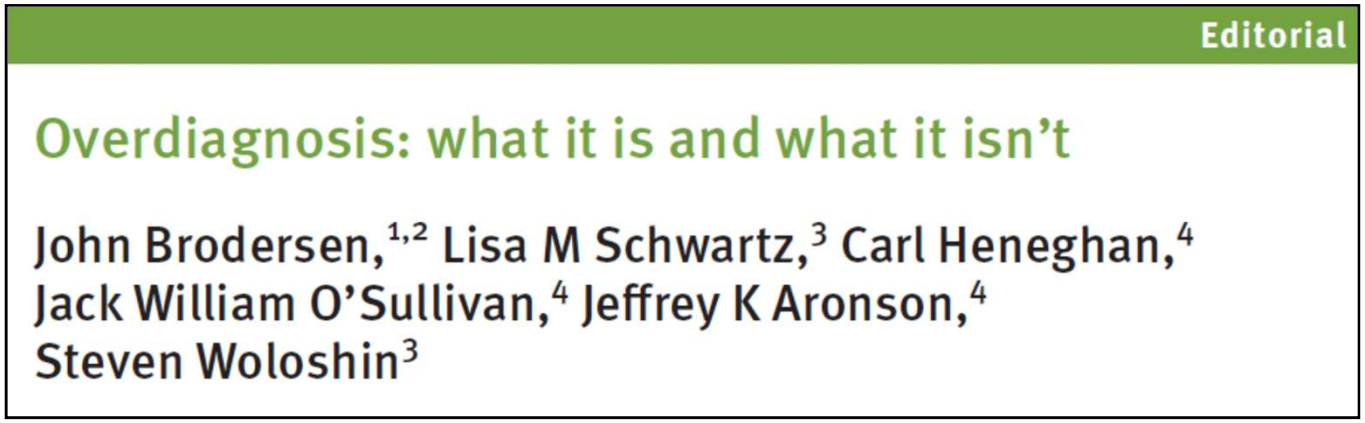


Sigurdsson, Getz, Sjönell, Vainiomäki, Brodersen. Marginal public health gain of screening for colorectal cancer. 19(2):400-7, 2013.



Broadly, overdiagnosis means making people patients unnecessarily, by identifying problems that were never going to cause harm or by medicalising ordinary life experiences through expanded definitions of diseases.

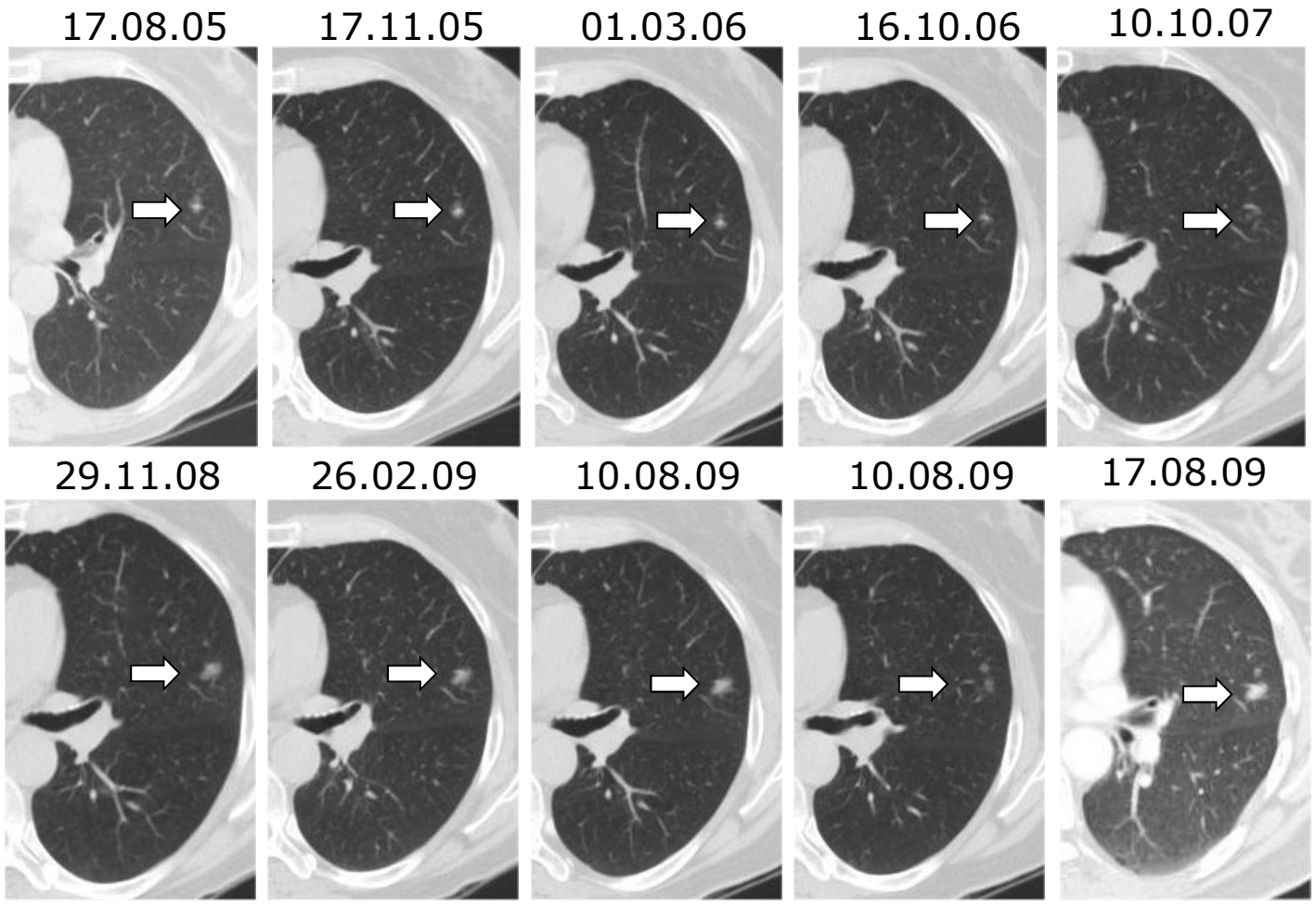
Brodersen, Schwartz, Heneghan, O'Sullivan, Aronson, Woloshin. Overdiagnosis: what it is and what it isn't. BMJ EBM, 2018.

Overdiagnosis - prognosis

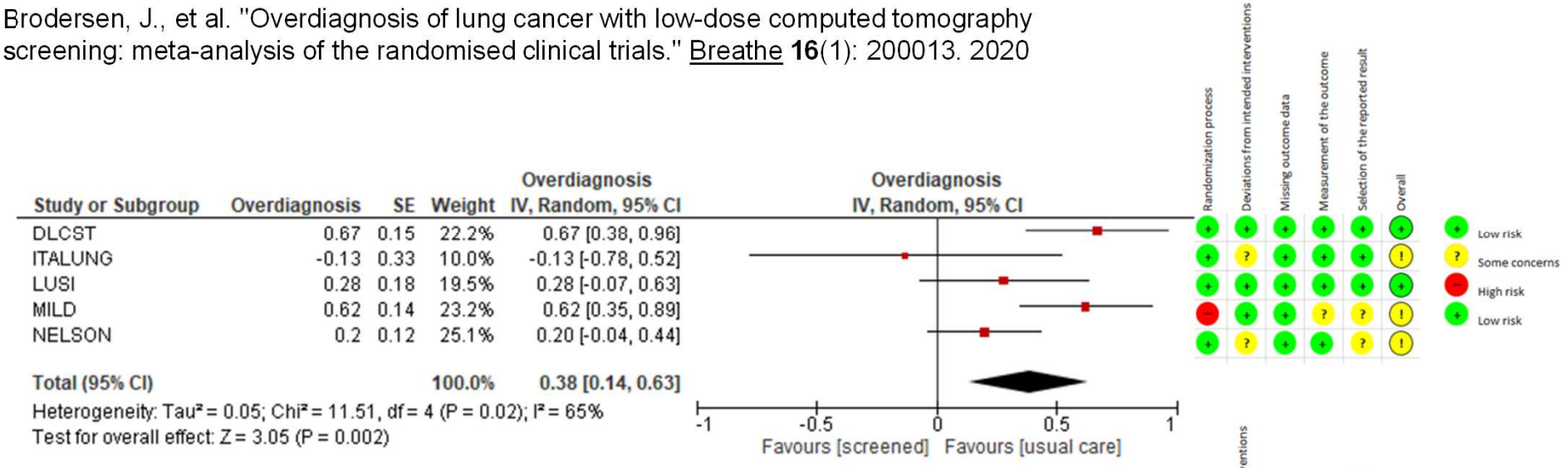
…the ultimate criterion for overdiagnosis: at the end of life, if the person never developed a problem from her condition, she has been overdiagnosed.

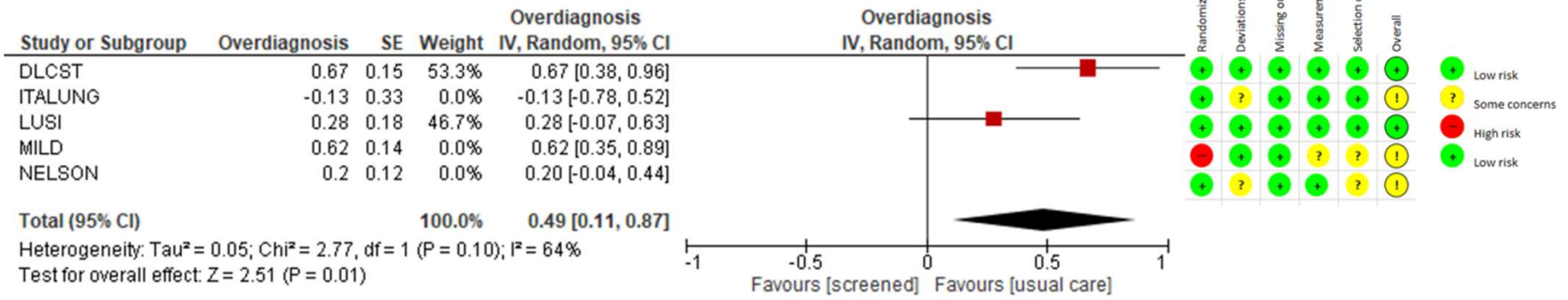
Welch, Schwartz, Woloshin. *Overdiagnosed. Making People Sick in the Pursuit of Health, Boston: Beacon Press, 2011.*

Lung cancer screening with CT scan

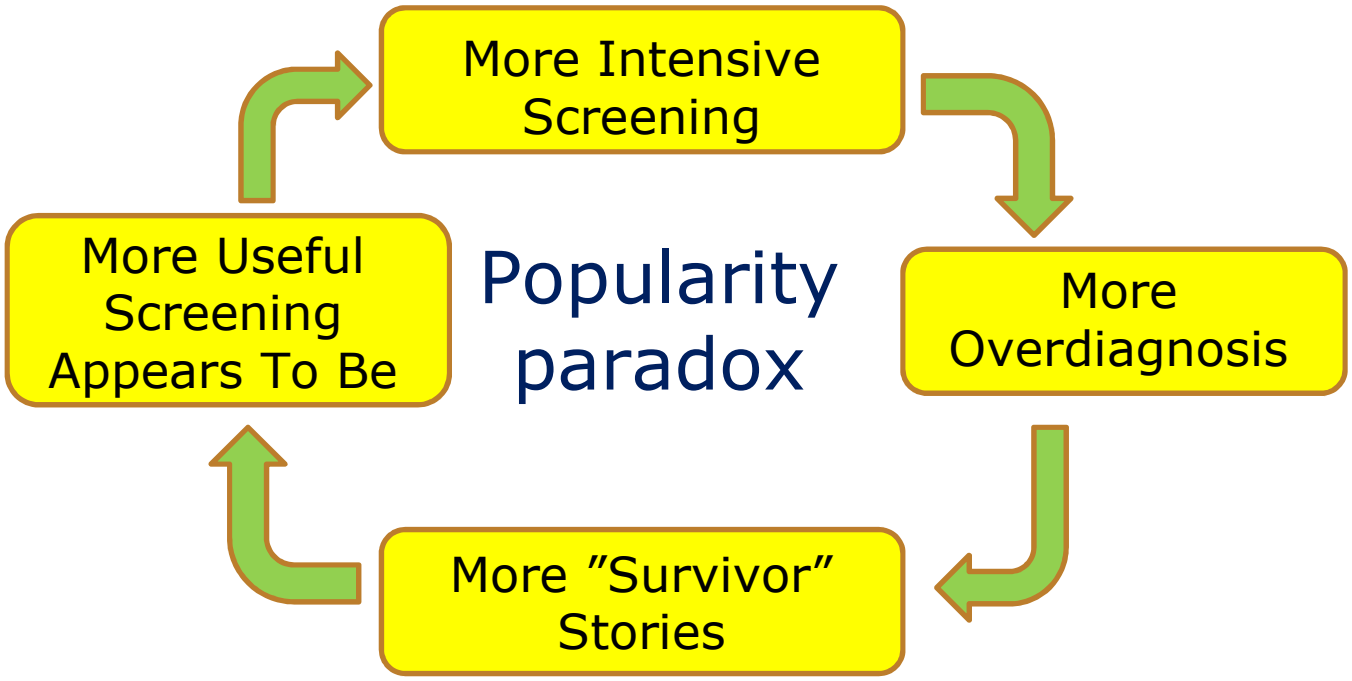


Brodersen, J., et al. "Overdiagnosis of lung cancer with low-dose computed tomography screening: meta-analysis of the randomised clinical trials." Breathe **16**(1): 200013. 2020

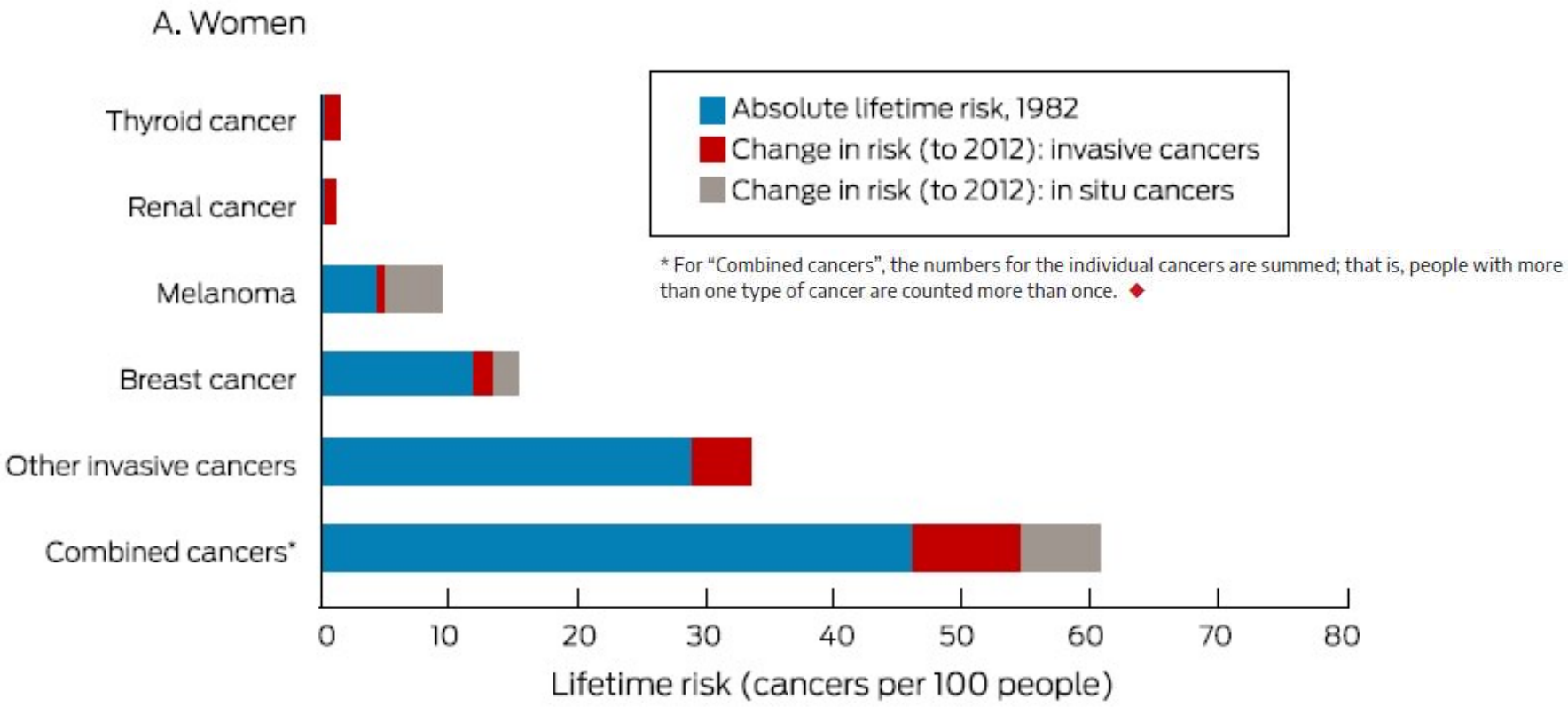




Survivors stories drive screening towards more overdiagnosis



The magnitude of overdiagnosis of cancer in Australia



Glasziou et al. Estimating the magnitude of cancer overdiagnosis in Australia. The Medical journal of Australia. 2019.

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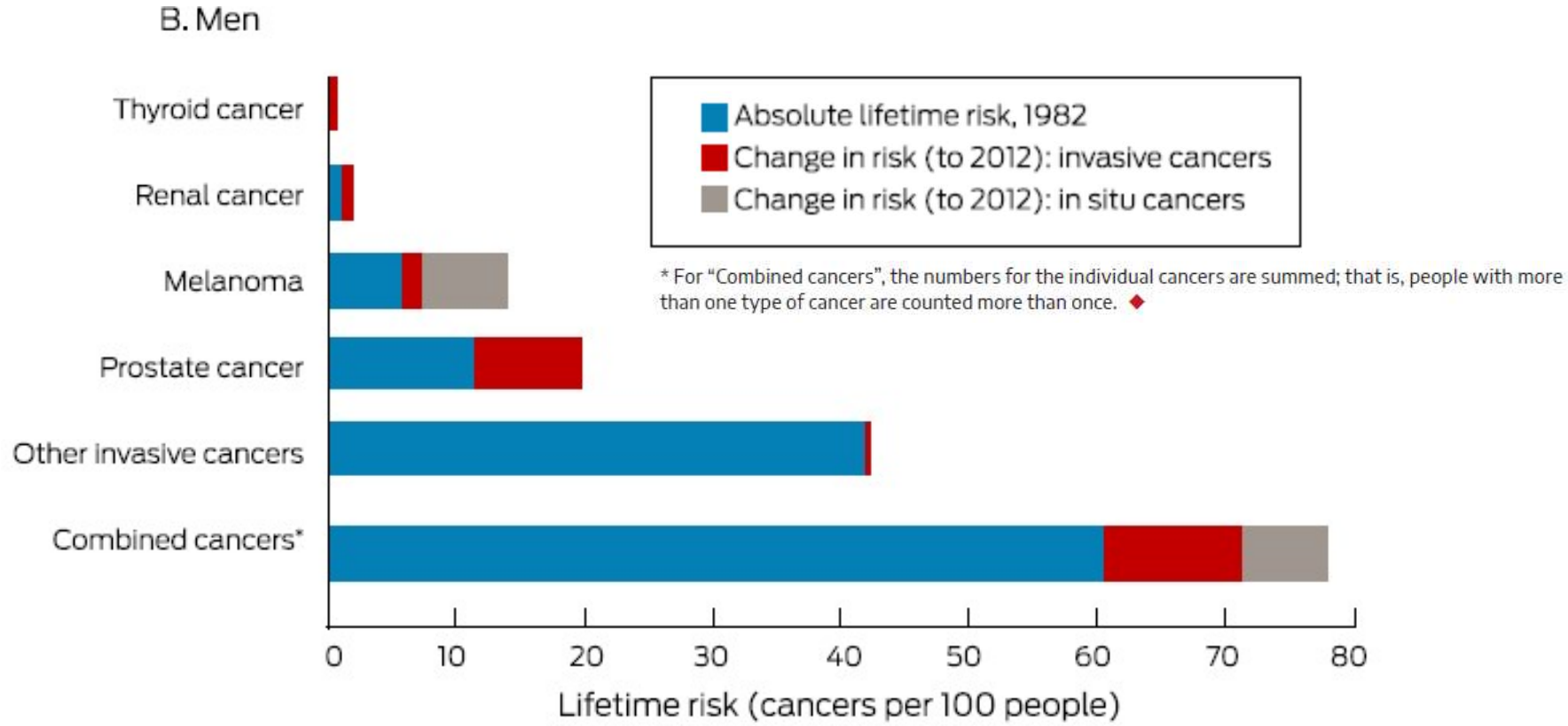
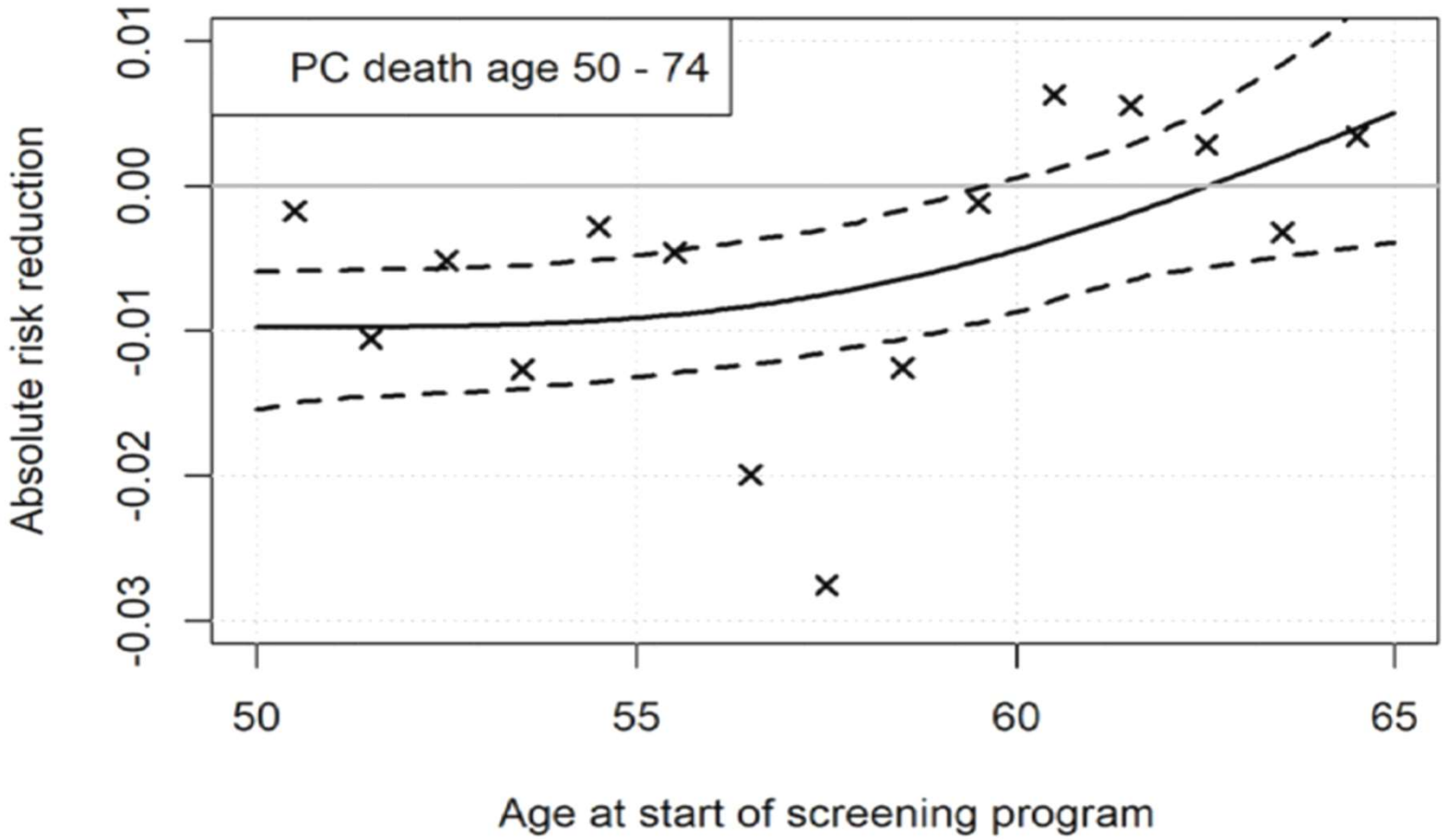
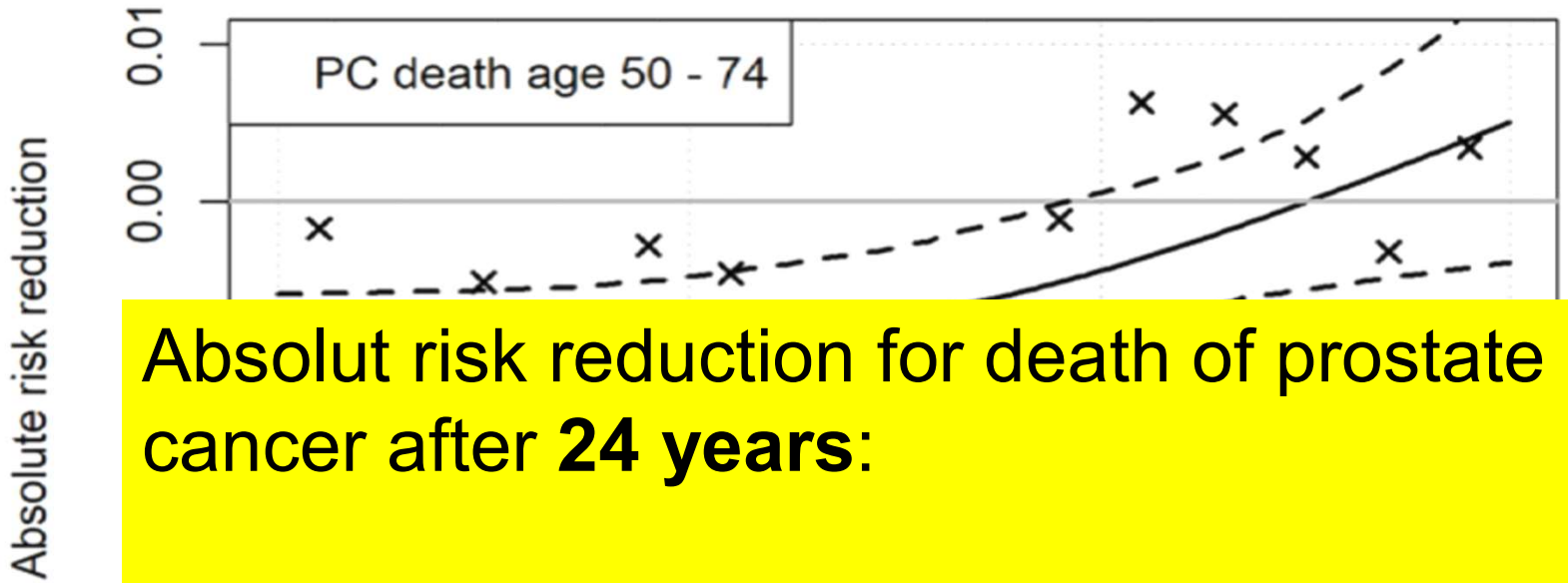


Glasziou et al. Estimating the magnitude of cancer overdiagnosis in Australia. The Medical journal of Australia. 2019.



Carlsson et al.. Young Age on Starting Prostate-specific. European Urology, 2023



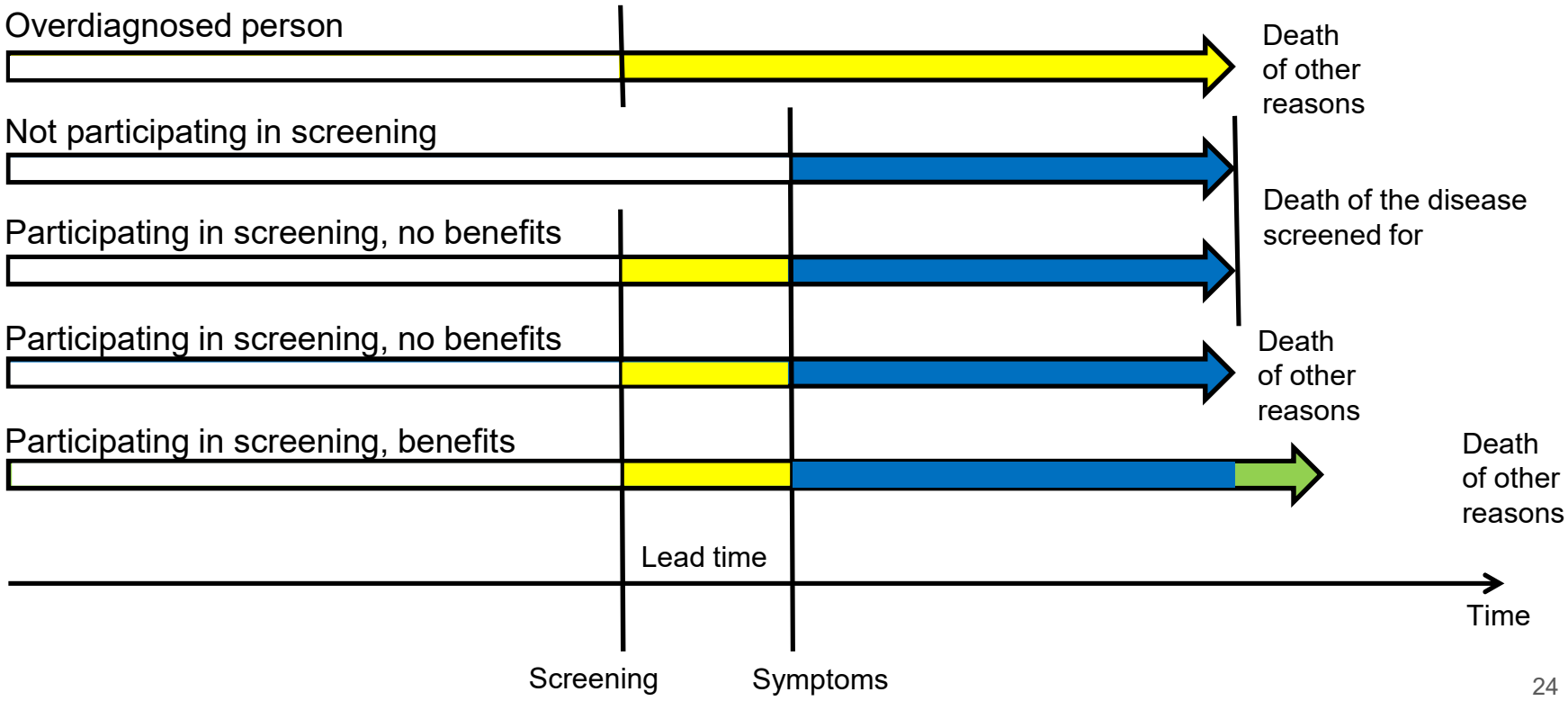
Absolut risk reduction for death of prostate cancer after **24 years**:

0.5% = NNIS 200 & Odx?

No effect on specific mortality if PSA screening begins after 62 year of age

Carlsson et al.. Young Age on Starting Prostate-specific. European Urology, 2023

Time: Reduced mortality, Longer morbidity & Overdiagnosis



Time: Reduced mortality, Longer morbidity & Overdiagnosis

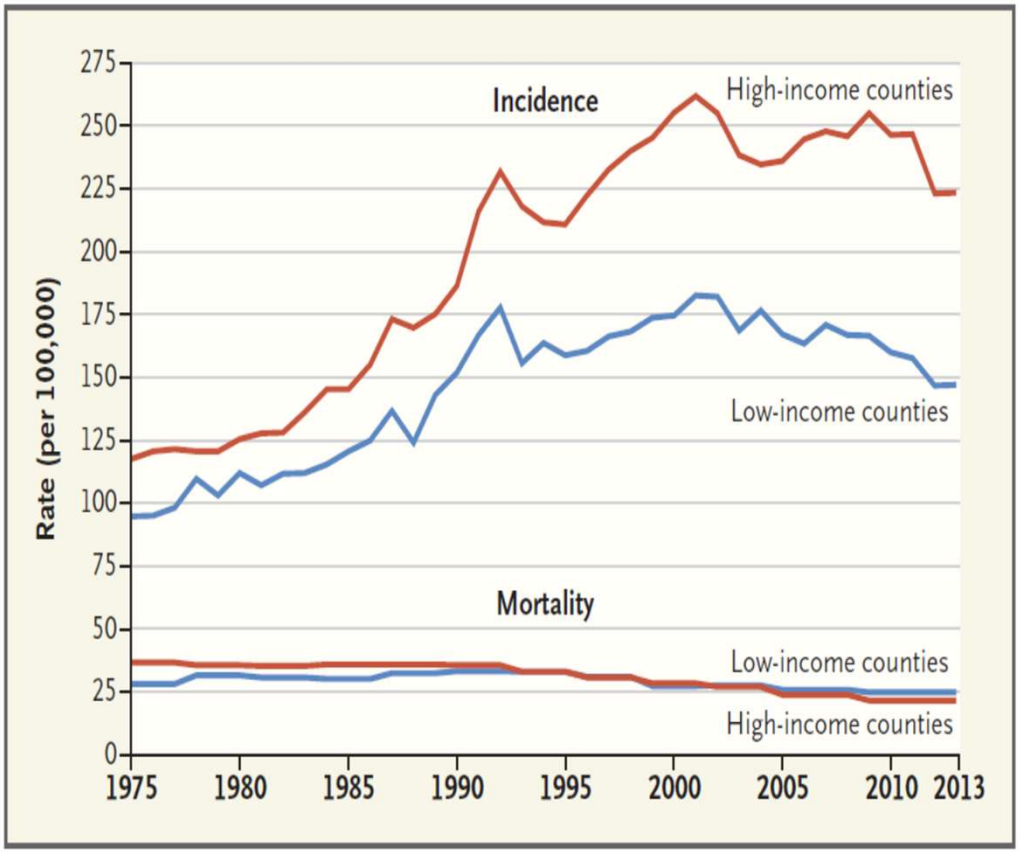
Men in the highest testing quartile of practices compared to men in the lowest quartile had

Event	incidence rate ratio	95% confidence interval
trans-rectal ultrasound	1.20	0.95–1.51
Biopsy	1.76	1.54–2.02
prostate cancer diagnosis	1.37	1.23–1.52
local stage	1.61	1.37–1.89
Prostatectomy	2.25	1.72–2.94
Radiotherapy	1.28	1.02–1.62
Mortality of prostate cancer	1.11	0.92–1.33
Mortality, all causes	1.01	0.97–1.05
Survival	83.4 (relative)	79.3–86.7 (relative)

Hjertholm, P., et al. (2015). "Variation in general practice prostate-specific antigen testing and prostate cancer outcomes: an ecological study." Int J Cancer **136**(2): 435-442.

Wrap up

- All screening programmes do harm. Some also do good.
- How should the pros and the cons be weighed?



Incidence and Mortality Trends for Breast Cancer, Prostate Cancer, Thyroid Cancer, and Melanoma in High- and Low-Income Counties in the United States, 1975–2013.

Welch & Fisher. "Income and Cancer Overdiagnosis - When Too Much Care Is Harmful. N Engl J Med 376(23): 2208-2209, 2017