The poor cancer patient!

Social inequalities in cancer survivorship – implications for care

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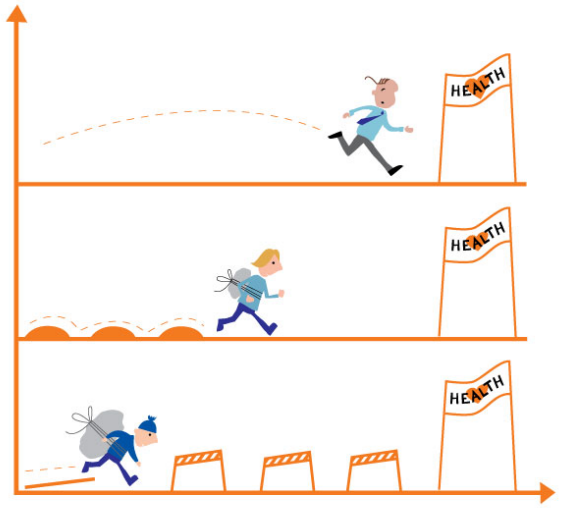
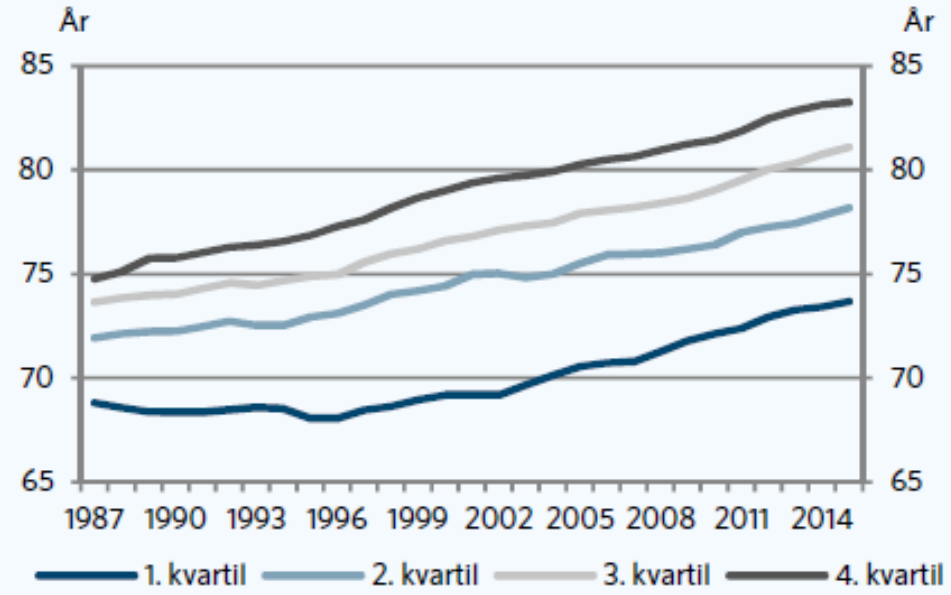


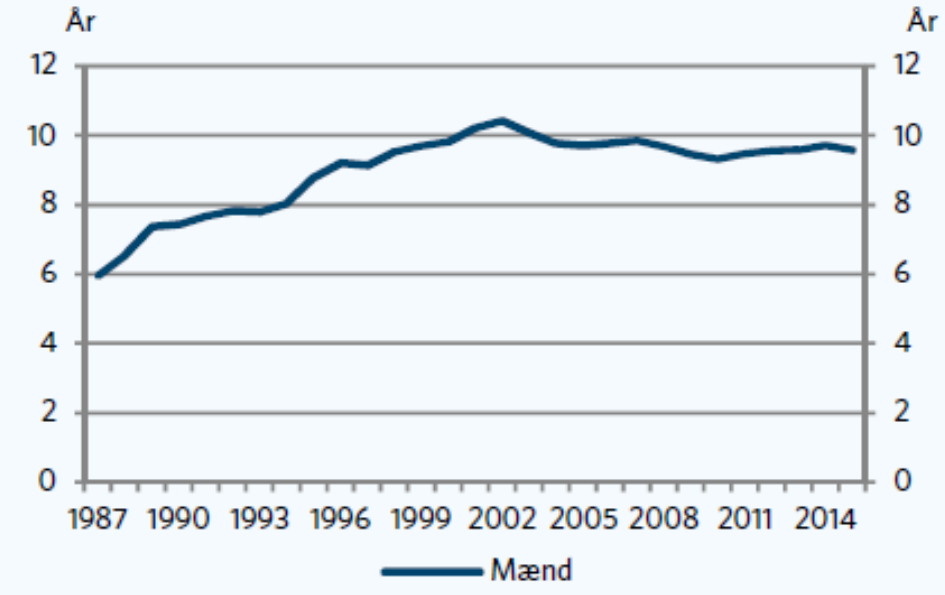
Life expectancy increases …. 10 years difference in expected length of life between the richest and poorest men

Figur 2A. Middellevetid opdelt på indkomst-kvartiler, mænd



Kilde: AE på baggrund af Danmarks Statistik

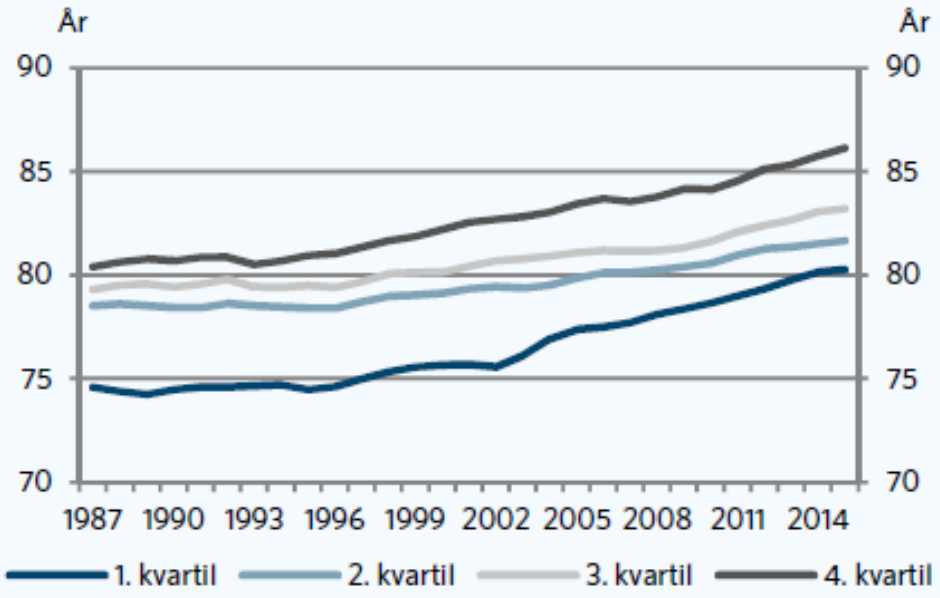
Figur 2B. Forskel i middellevetid mellem højeste og laveste indkomstkvartil, mænd



Kilde: AE på baggrund af Danmarks Statistik

Same for women, but differences are smaller (6 years) and more stable with time

Figur 3A. Middellevetid opdelt på indkomst-kvartiler, kvinder



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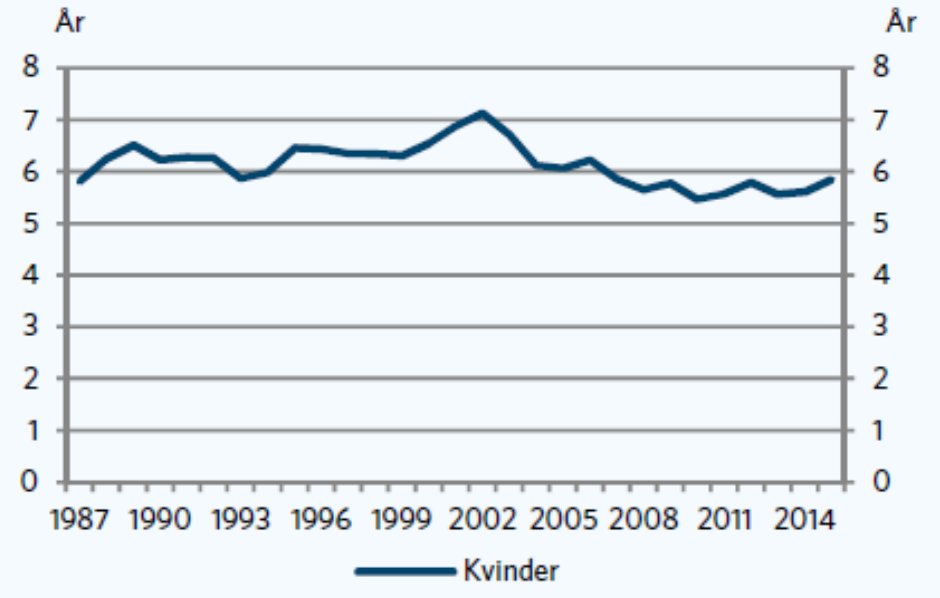
Figur 3B. Forskel i middellevetid mellem højeste og laveste indkomstkvartil, kvinder



Kilde: AE på baggrund af Danmarks Statistik

Cancer disparities are seen between different groups in society

Socioeconomic position:

- resource-based (income, wealth, insurance status)
- cognitive capacity/health literacy (education)
- social support (cohabitation status)

Measures represent both individual social position and access to material goods

Measures may be individual level or area-based

May measure across whole gradient or the gap

Adapted from ACCR Cancer Progress Report 2017

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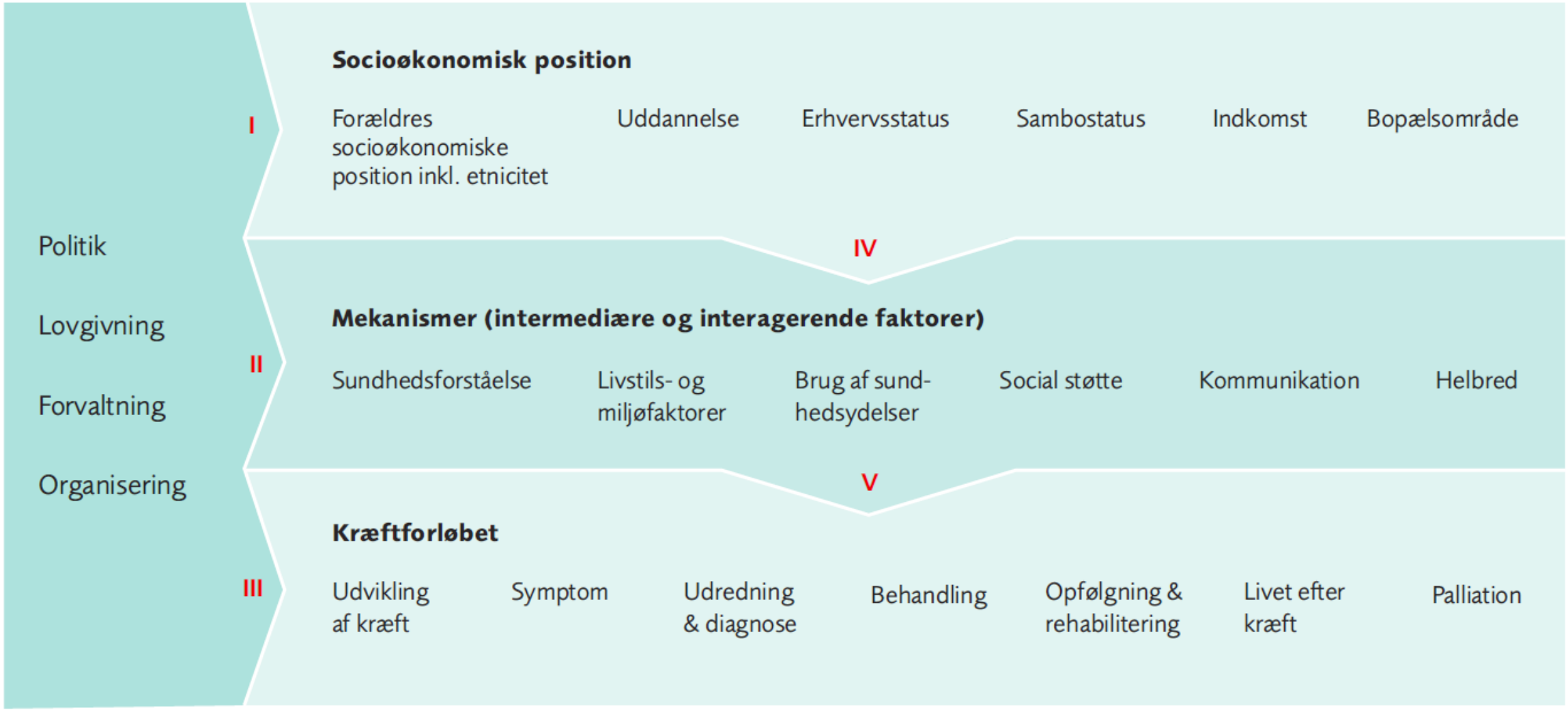
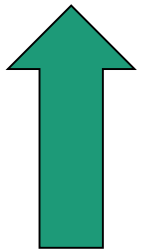
SOCIAL ULIGHED I KRÆFT I DANMARK


STRUKTURELLE FAKTORER
INDIVIDUELLE FAKTORER
Politik
Lovgivning
Forvaltning
Organisering
I
II
III
IV
V
Socioøkonomisk position
Forældres socioøkonomiske position inkl. etnicitet
Uddannelse
Erhvervsstatus
Sambostatus
Indkomst
Bopælsområde
Mekanismer (intermediære og interagerende faktorer)
Sundhedsforståelse
Livstils- og miljøfaktorer
Brug af sund-hedsydelser
Social støtte
Kommunikation
Helbred
Kræftforløbet
Udvikling af kræft
Symptom
Udredning & diagnose
Behandling
Opfølgning & rehabilitering
Livet efter kræft
Palliation

Low social position is associated with cancer incidence



Head&Neck
Esophagus
Stomach
Lung
Cervix
Kidney
Bladder
Pancreas

Colon
Rectum
Endometrium
Ovary
Testicle
Brain
Lymphoma
Leukemia

Breast
Prostate
Melanoma

Dalton et al, 2008

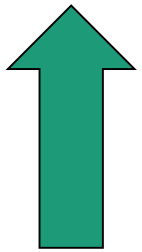
Social inequality in cancer incidence

Risk factors are differently distributed between social groups

- Health behaviour (smoking, alcohol, physical activity, diet, sexual habits, health care seeking incl. screening)
- Work exposures (carcinogens)
- Environment (pollution of air, water etc.)

With increased inequality in especially health behaviour cancer will increasingly become a social disease…

Low social position is associated with cancer survival



Head&Neck ↓
Esophagus ↓
Stomach ↓
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Cervix ↓
Kidney ↓
Bladder ↓
Pancreas ↓

Colon ↓
Rectum ↓
Endometrium ↓
Ovary ↓
Testicle ↓
Brain ↓
Lymphoma ↓
Leukemia ↓

Breast ↓
Prostate ↓
Melanoma ↓

Dalton et al, 2008

Pattern over time is clear

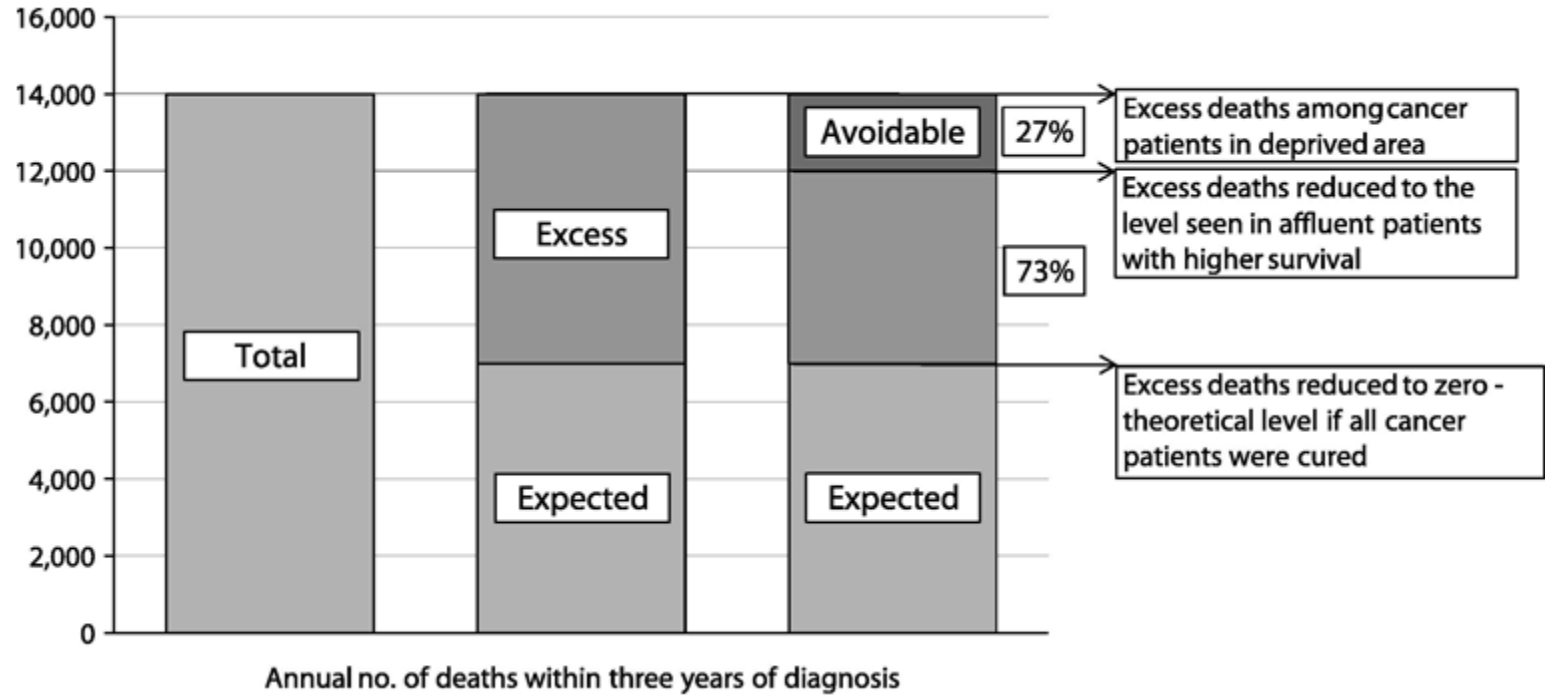
- Either stable or increasing differences in short- and long-term survival by SEP:

- Patients with high SEP are increasingly experiencing better survival
- Patients with low SEP are either experiencing less increase or no increase in survival

Some groups of cancer patients are systematically not benefiting from advances in diagnostics and treatment!

Dalton 2019

Social inequality in survival after cancer – avoidable deaths after 5 years could disparities be eliminated



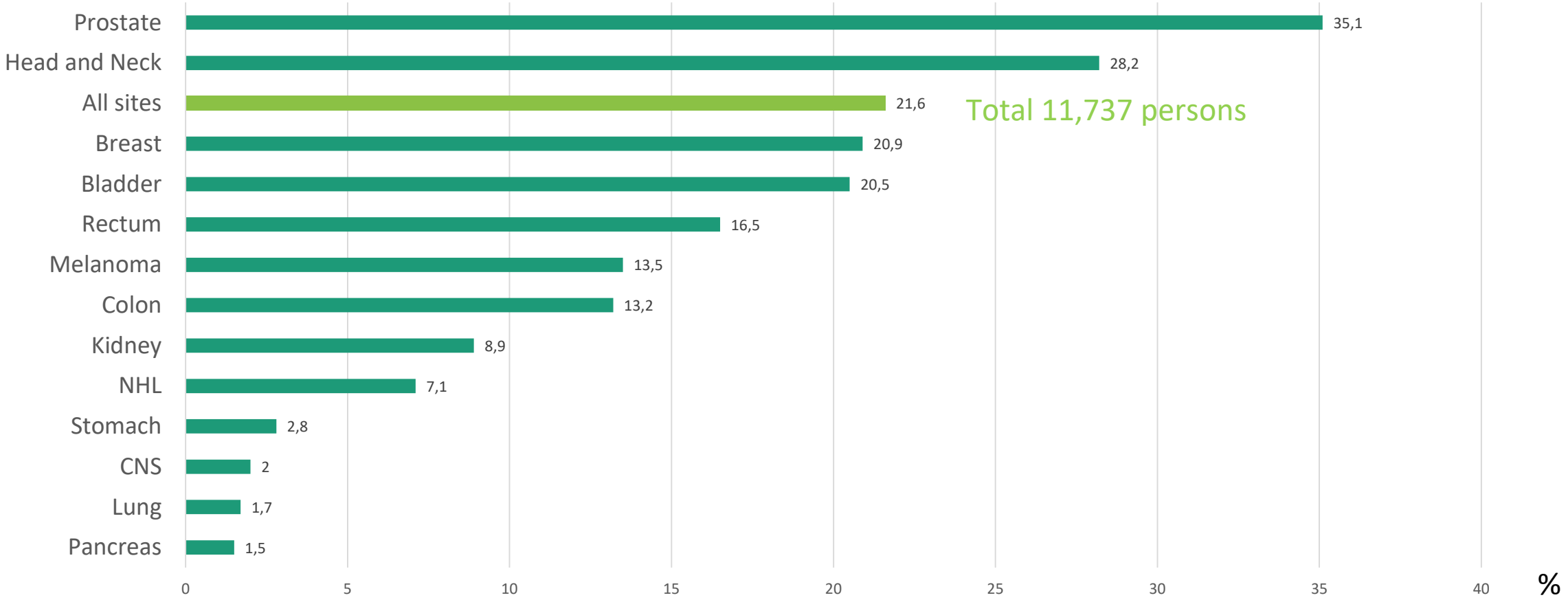
Partition of the annual number of deaths in cancer patients within three years since diagnosis into the number expected from background mortality and the number of excess deaths (attributable to cancer). This hypothetical example shows the proportion of all excess deaths that would be avoidable (27%) if relative survival in all deprivation categories were as high as in the most affluent patients.

European Journal of Cancer
Volume 48, Issue 2, January 2012, Pages 270-278

doi:10.1016/j.ejca.2011.10.008 | How to Cite or Link Using DOI

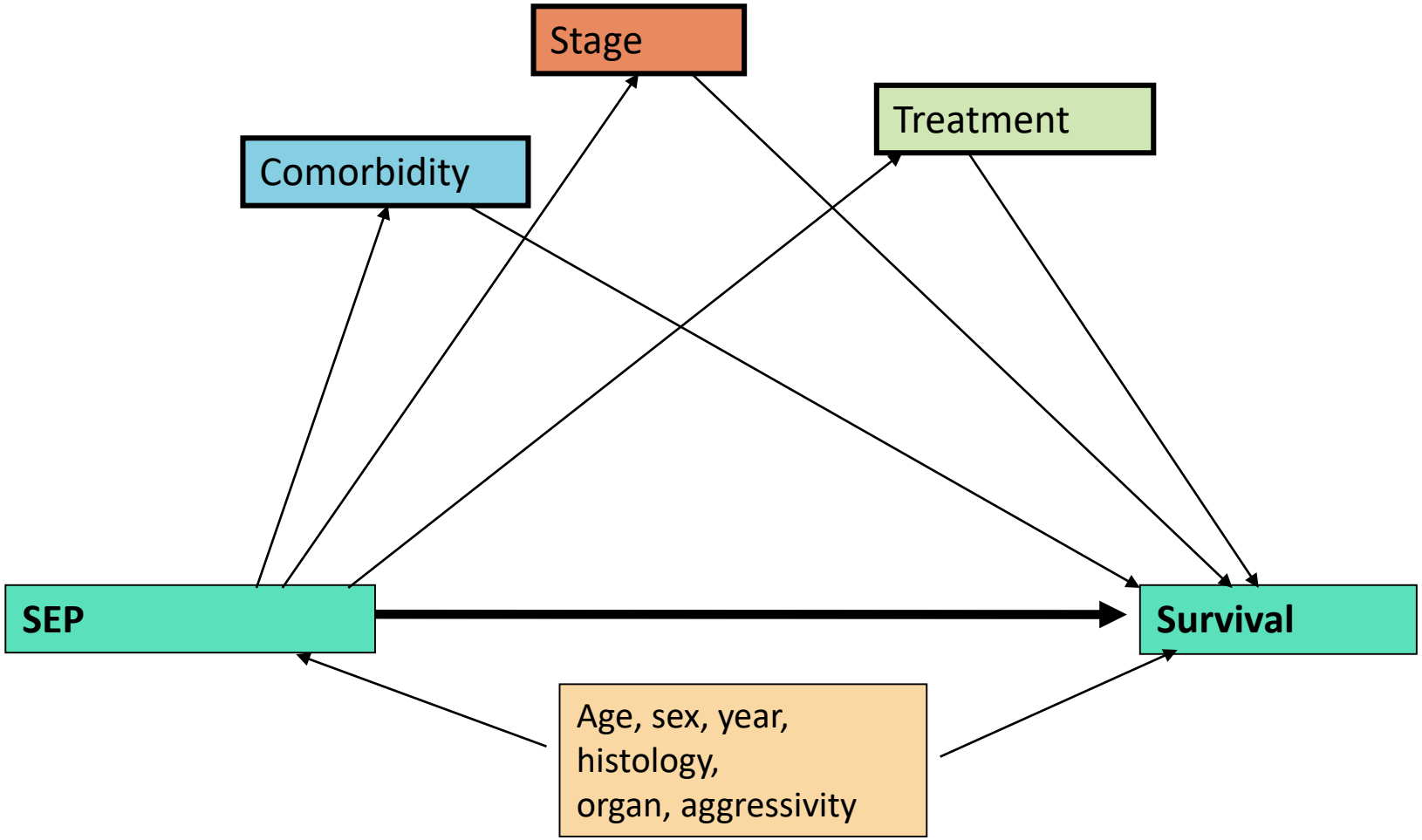
In Denmark - a country with a tax-funded health care system the potential proportion of patients who would still be alive at 5-years if social inequality was eliminated is 22%

Proportion (%) of cancer patients (who died) who would still be alive if their relative survival had been as patients with top quintile income



Dalton 2019

Main factors driving social inequality in survival after cancer



Do we see social inequality in stage at diagnosis?

- Patients with low SEP have a greater likelihood of being diagnosed with advanced cancer stage (e.g. Dalton 2011, Ibfelt 2012, Frederiksen 2012, Forester 2016)
- Seen across cancer types with only few exceptions like ovarian cancer, colon cancer or sarcoma (e.g. Ibfelt 2012, Olsen 2015, Forrest 2017)
- Inequality in participation in ALL cancer screening (Rees 2018, Lyle 2017, Wools 2016)

CAVE! - population wide interventions targeting individual behaviour may have no impact on health disparities and may EXACERBATE inequalities

Why should SEP influence stage at diagnosis?

Health literacy – knowledge about your body, cancer and interpretation of symptoms

Communication skills

Resources and ability to participate in screening, react on symptoms and seek medical help

Social support from partner to participate in screening or react on symptoms

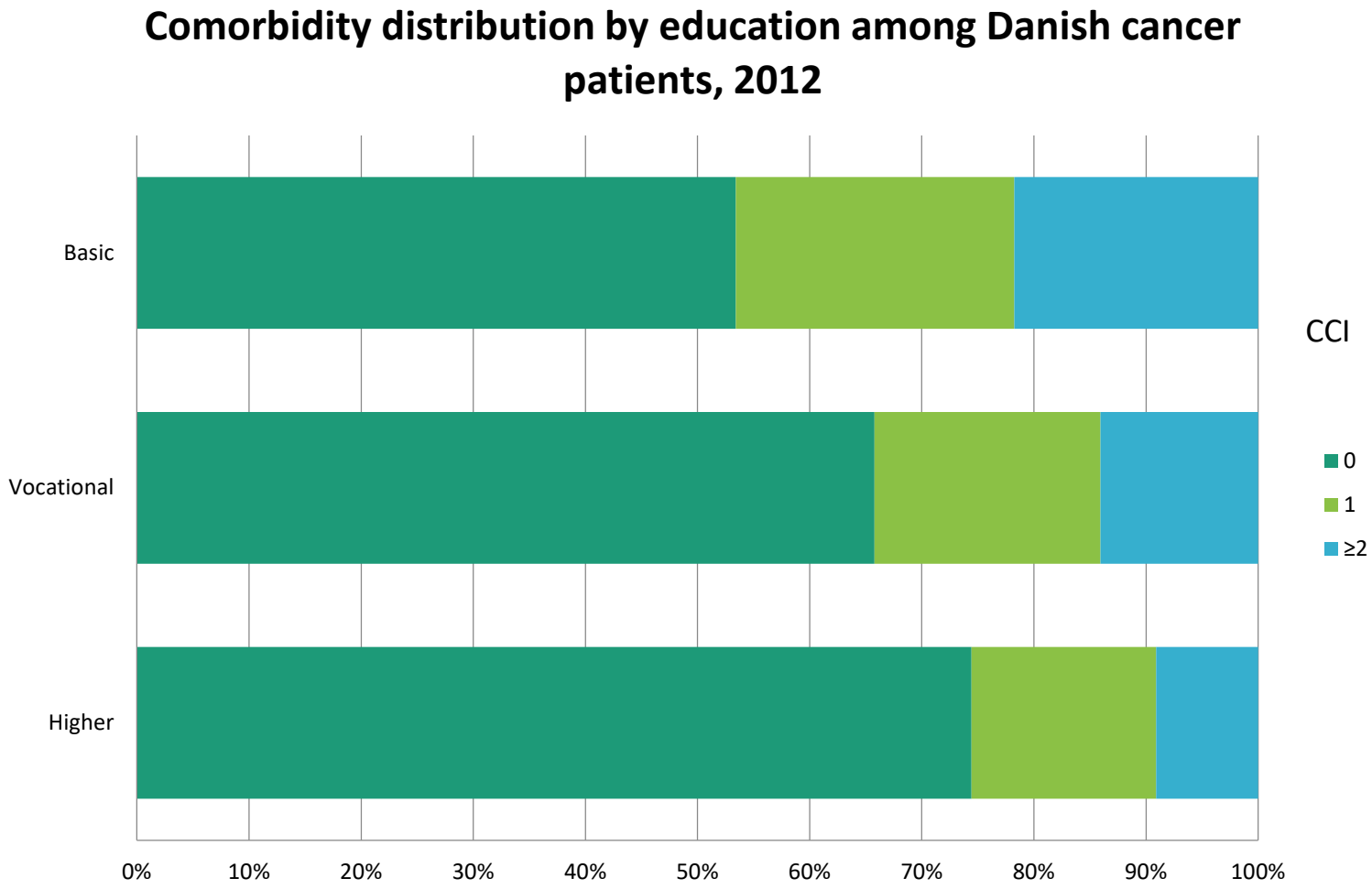
Patients with low SEP report negative expectations about cancer and the health care system

They perceive symptoms and ‘normality’ different

They have more health contacts and longer and less straight-forward diagnostic work-ups

(e.g. McCutchan 2015, Mounce 2017, Merrild 2017)

Social inequality in comorbidity among cancer patients?



Social inequality in comorbidity reflects inequality in health:

- Contribute per se to mortality among cancer patients
- Affect treatment choices

Hovaldt et al, 2015

Inequality in receipt of optimal and timely treatment?

Social inequality in treatment is less when patients' stage and comorbidity is taken into account

Inequality is seen:

- Cancers with adverse prognosis (reflecting grey zone for treatment planning) – i.e. lung cancer both early and advanced stage (e.g. Forest 2013, Dalton 2015)
- Complex and new treatments, i.e bone marrow transplant in ALL (e.g. Østgaard 2017)

It is not all about survival….

Social inequality in survivorship

Patients with low SEP

- less likely to participate in rehabilitation and have more unmet needs (e.g. Holm et al 2013, Moustsen 2015, Dalton 2019)
- have higher risk of leaving work market after cancer (e.g. Islam 2014, Mehnert 2013)
- use less and initiate later palliative care (e.g. Lycken 2018)

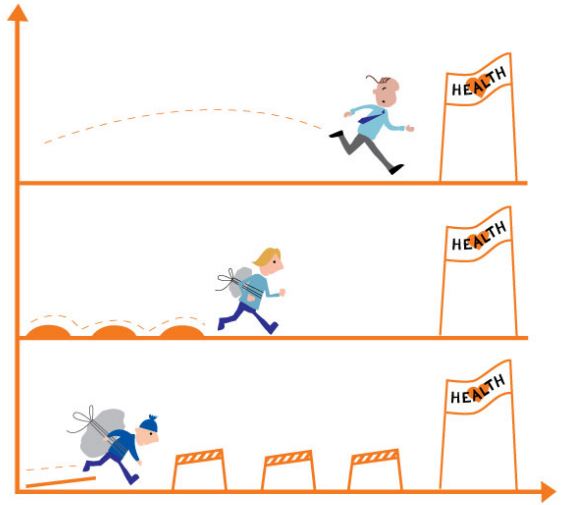
Social inequality in late effects

Survivors with low SEP have increased risk of

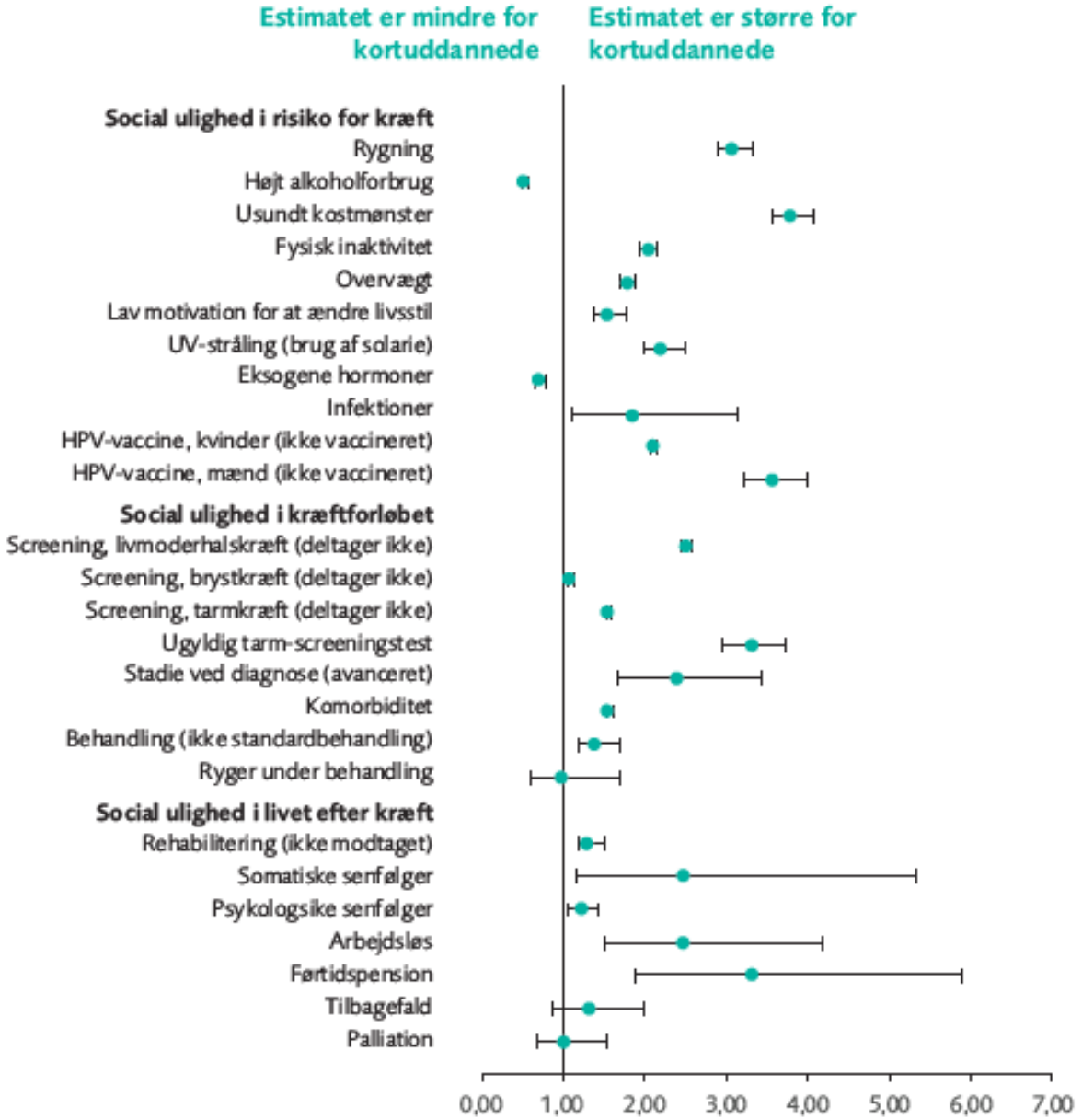
- dysphagia, trismus and pain after HNC (Kjær 2017, Tribius 2018)
- CVD after PCa (Moustsen 2019)
- depression after BC and PCa (e.g. Suppli 2016, Friberg 2019)
- fatigue (e.g. Tribius 2018)

Disparities are seen in all cancer-related health outcomes

- Screening participation
- Stage at diagnosis
- Incidence
- Access to optimal and timely treatment
- Treatment-related morbidity (acute and late)
- Access to rehabilitation
- Return to work and/or daily life
- Access to palliative and end-of-life care
- Survival



Social ulighed i hele kræftforløbet



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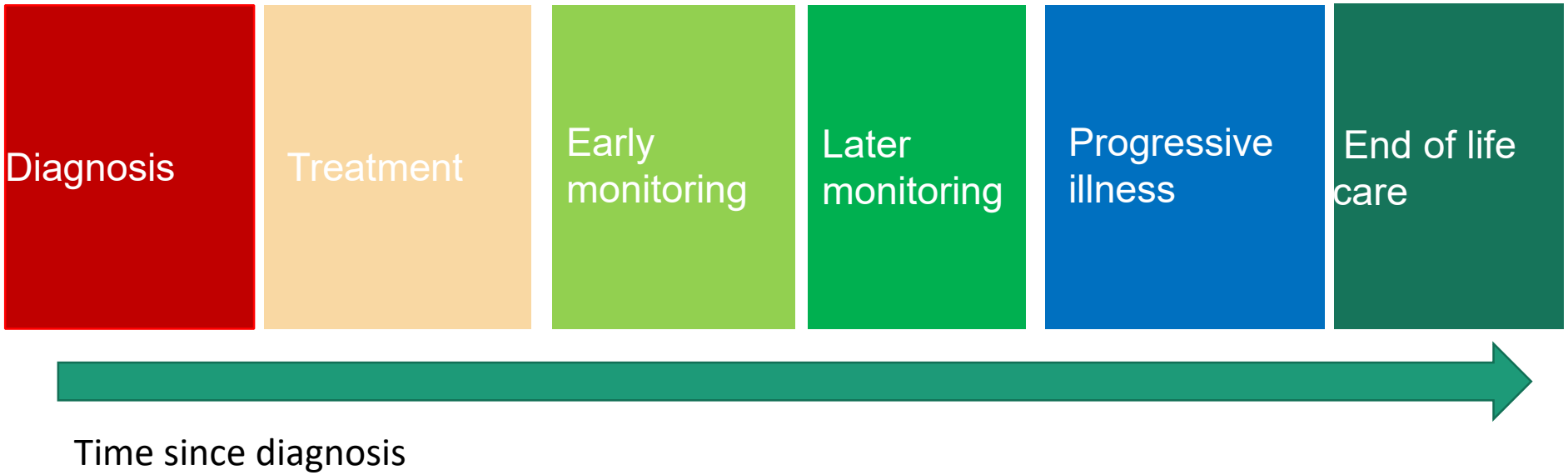
cancer.dk/hvidbog

In a country with free and equal access to health care -- transitions introduce disparities…..

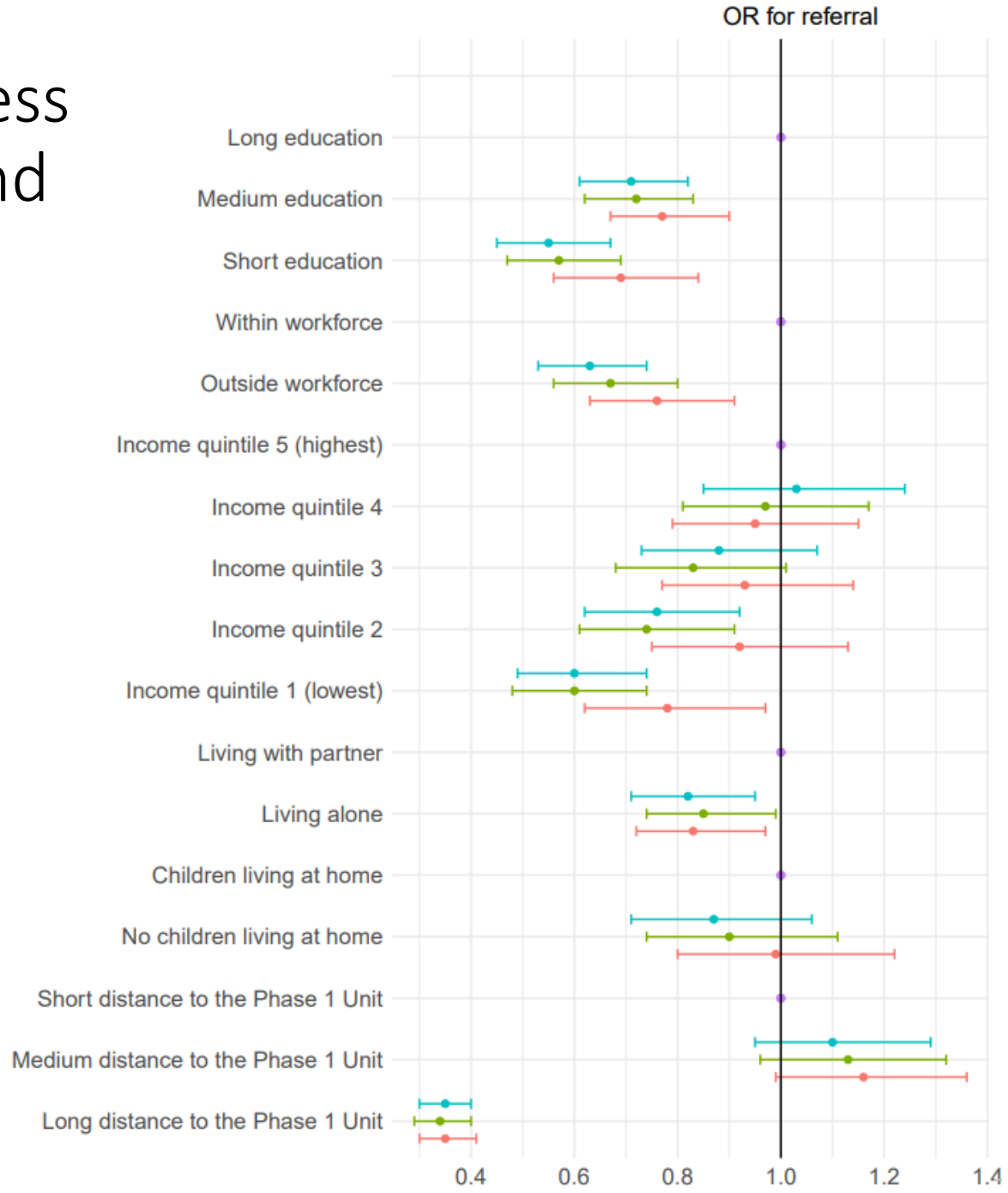


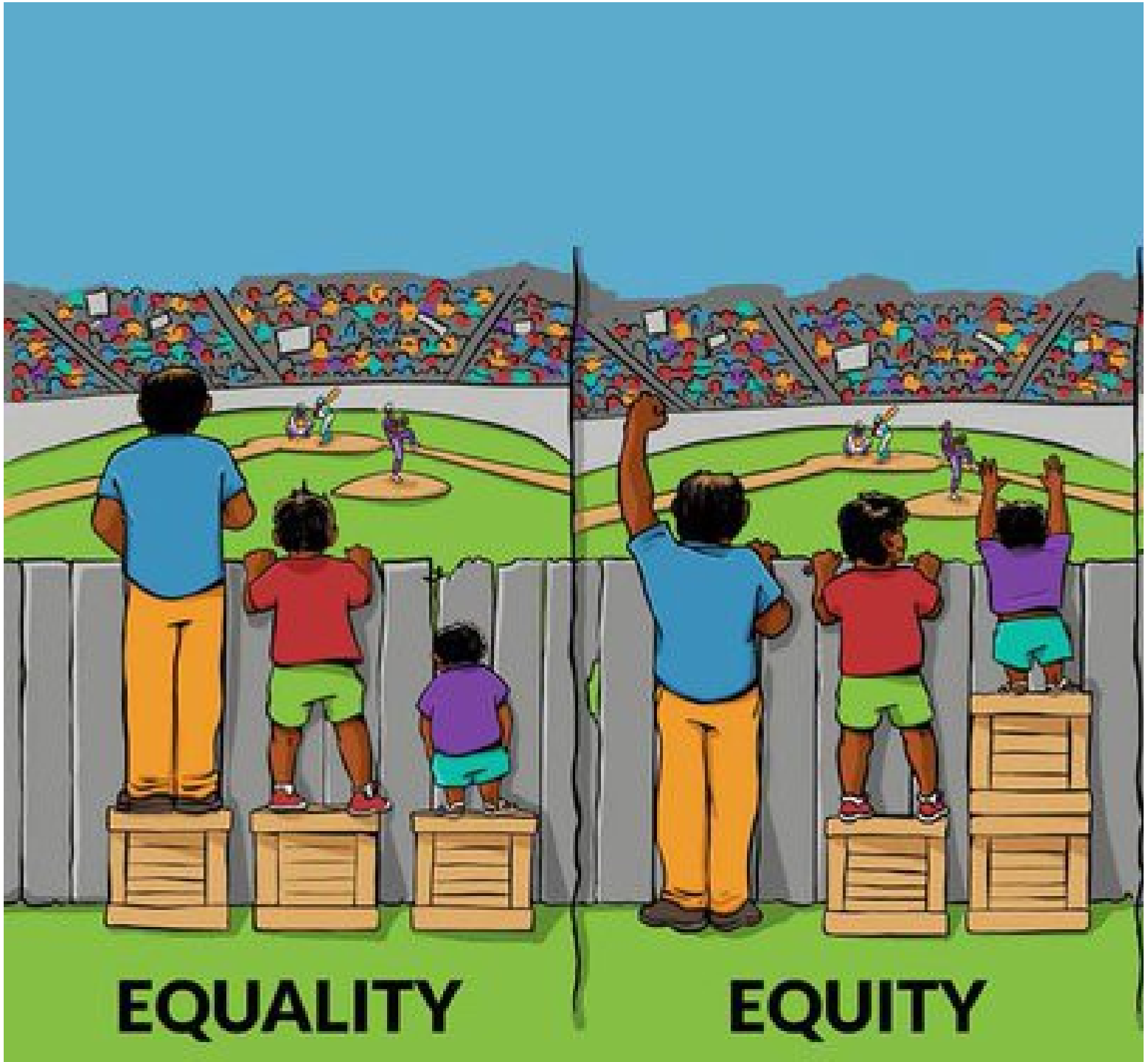
In a country with free and equal access to health care – selection may depend not ONLY on needs basis…..

Social disparities in referral to National Phase 1 Unit: a matched cancer case-control study

Gad et al, JCO 2019

CAVE! Introduction of new and more complex (personalized) treatment solutions may INCREASE inequality – and benefit strongest and most resourceful patients




EQUALITY
EQUITY

Health problems and risk behaviour cluster in vulnerable groups of citizen

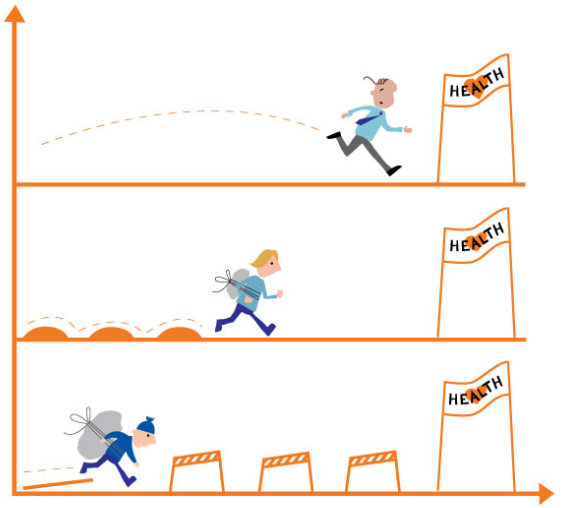
With serious consequences for health and for prognosis when diagnosed with cancer

… Social inequality in cancer is not to a large degree DUE to the health care system

BUT……

This does not mean that the health care system can not be a part of the solution!!

Unique possibilities to fill knowledge gaps in the Nordic setting



- Less common cancer types
- After primary cancer treatment
- Vulnerable/marginalised groups
- Patient related factors, like waiting time, lifestyle, QoL, need for and use of rehabilitation & palliation
- Development of preventive strategies acknowledging that different groups have different health strategies
- Evaluation and monitoring of structural changes implemented, i.e. the cancer packages, new treatments etc