

Is CVD associated with cancer risk ?

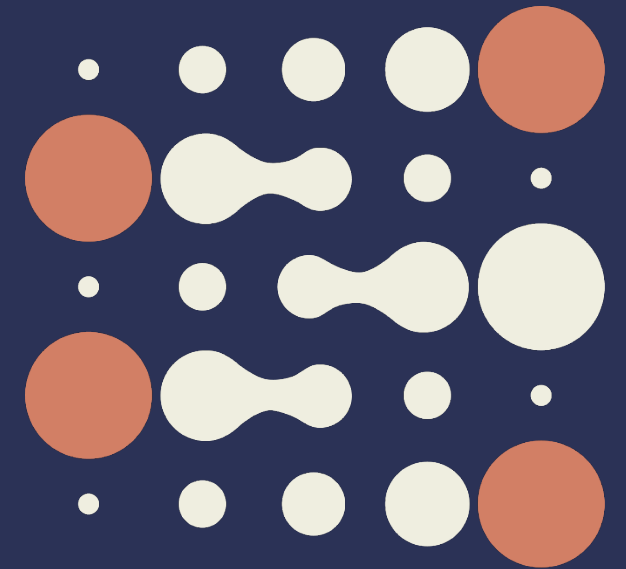
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(Project ILIAD, INCA, PI: P. Ferrari, H. Freisling)

International Agency
for Research on Cancer



Background

Cancer and cardiovascular diseases (CVD)

- Leading causes of morbidity worldwide
- Share common risk factors
- Share common biological pathways



CVD as a risk factor for cancer?

- Incidence of cancer higher in individuals with heart failure (*Camili et al, Cardio-oncology, 2023*)
- High association between atrial fibrillation and cancer risk within 3 months after the diagnosis (*Ostenfeld et al., PLOS ONE, 2014*)
- Evidence in mouse models (*Avraham et al, Circulation, 2020*)

Objective



Are incident CVD events associated with overall and lifestyle related cancer risk in EPIC and the UK Biobank?

Methods

- Study-specific Cox proportional hazard models to estimate cancer HR
- Time-varying covariate for incident CVD and CVD types (Atrial fibrillation, ischemic heart diseases, cerebrovascular diseases and heart failure, in UKB only)
- Estimation of cancer HR by time since CVD diagnosis

Two large prospective European cohorts

EPIC

Six European countries



N = 225,138 participants
Recruitment: 2006–2010
Free of CVD and cancer



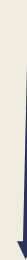
N = 9,652 incident CVD events
N = 19,745 first primary cancers

UK BIOBANK

Multicentre study in the UK



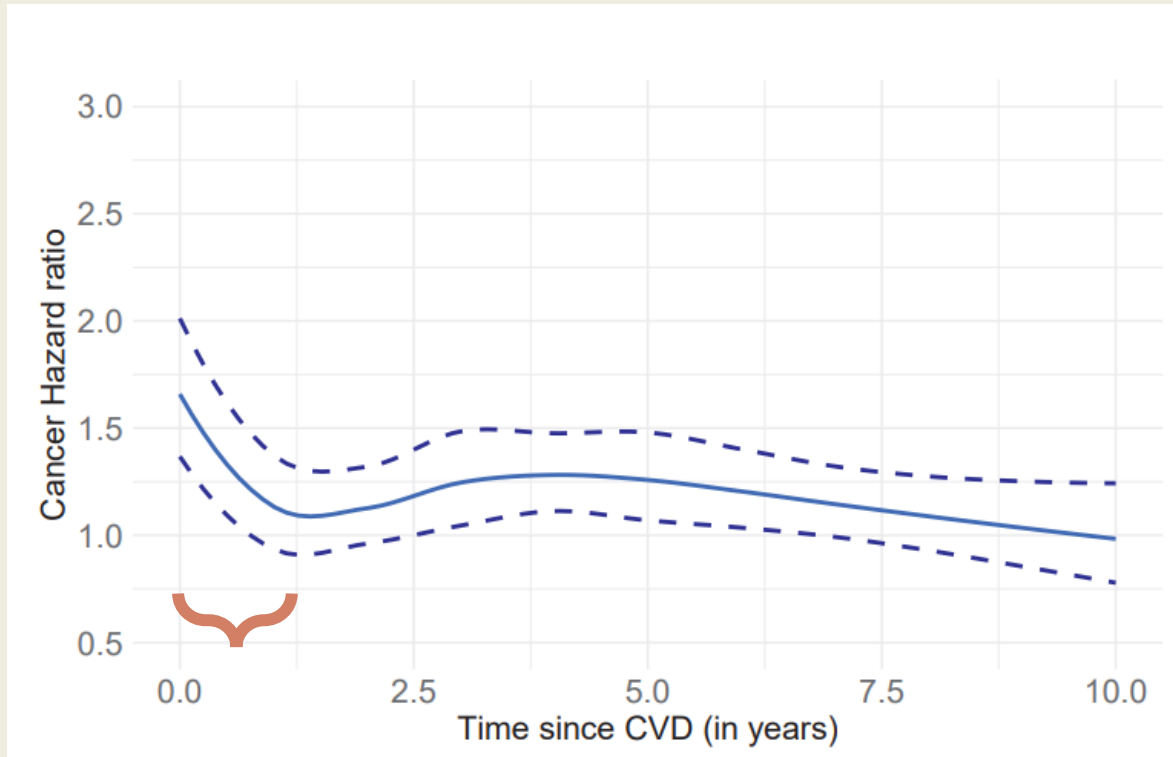
N = 347,019 participants
Recruitment : 2006–2010
Free of CVD and cancer



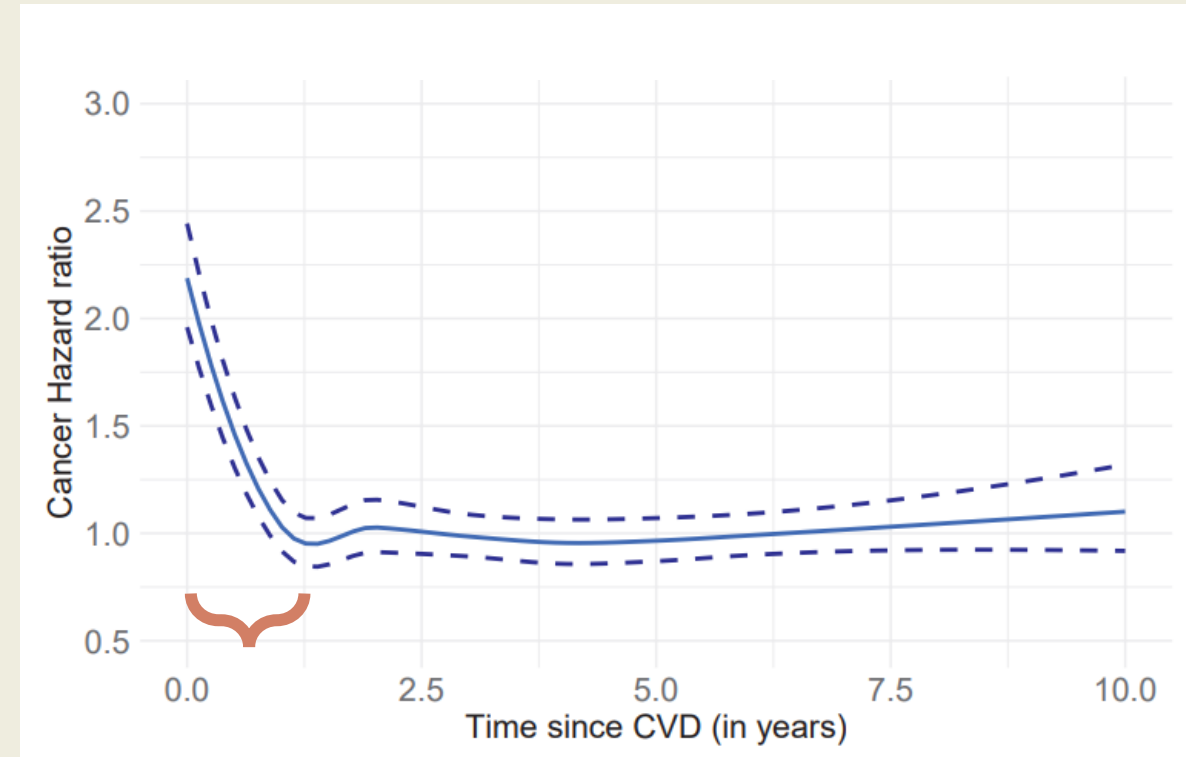
N = 39,275 incident CVD events
N = 33,475 first primary cancers

Results: Association between CVD and cancer risk by time since CVD

- EPIC

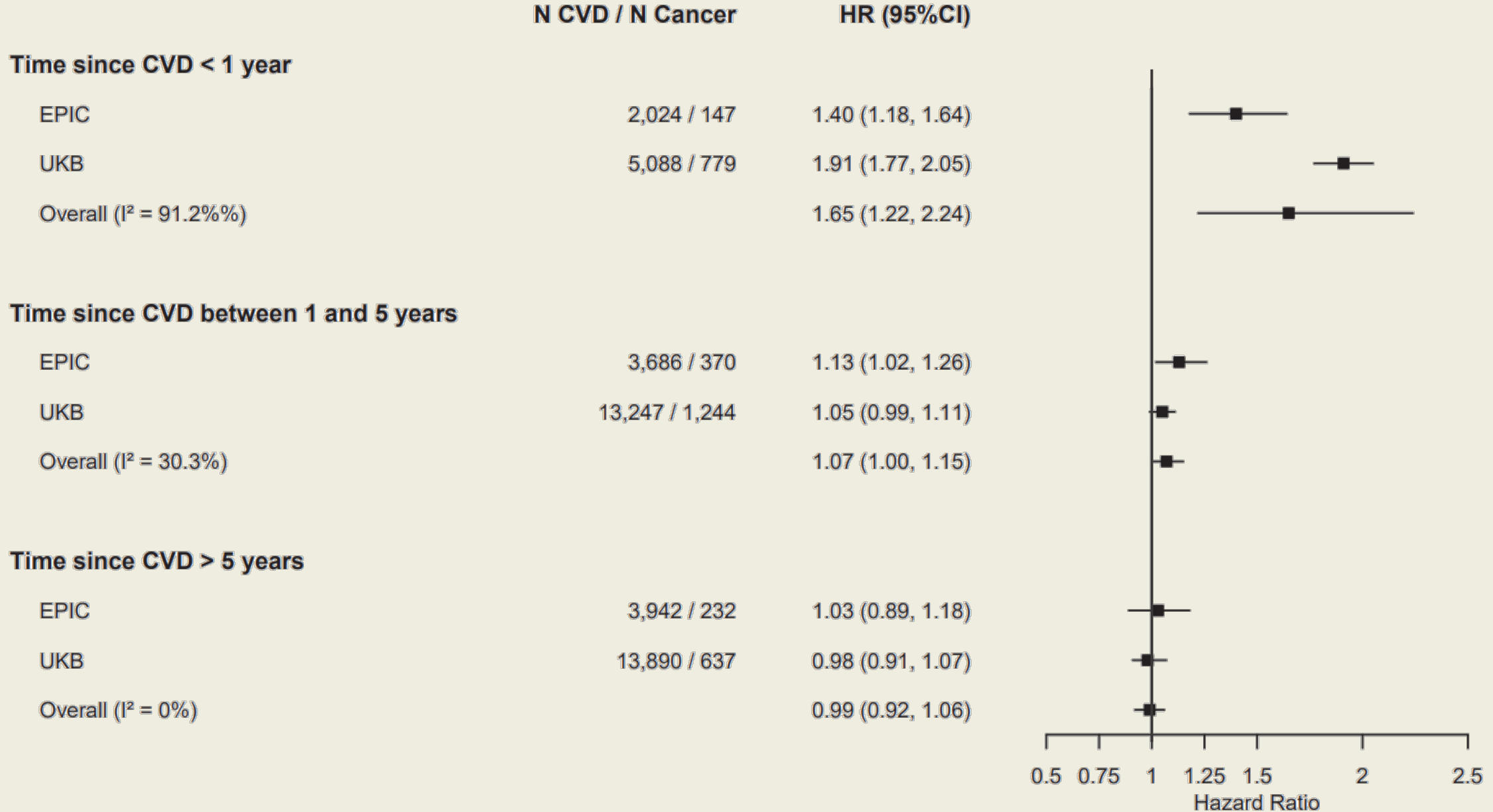


- UKB



Detection bias

Results: Association by categories of time since CVD



Discussion

- Meta-analysis of two of the largest European prospective cohorts studies
- 1 year after diagnosis of CVD, the CVD/Cancer association is weaker

Potential public health implications



- Cancer screening and prevention measures
- Multiple diseases clinical focus

Next steps

- Evaluate associations for lifestyle related cancer
- Analyses in main cancer sites and CVD types

THANK YOU FOR YOUR ATTENTION

