

Incident Cardiovascular and Neurological Disease in High-Risk Cancer Survivors in UK Biobank

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BACKGROUND

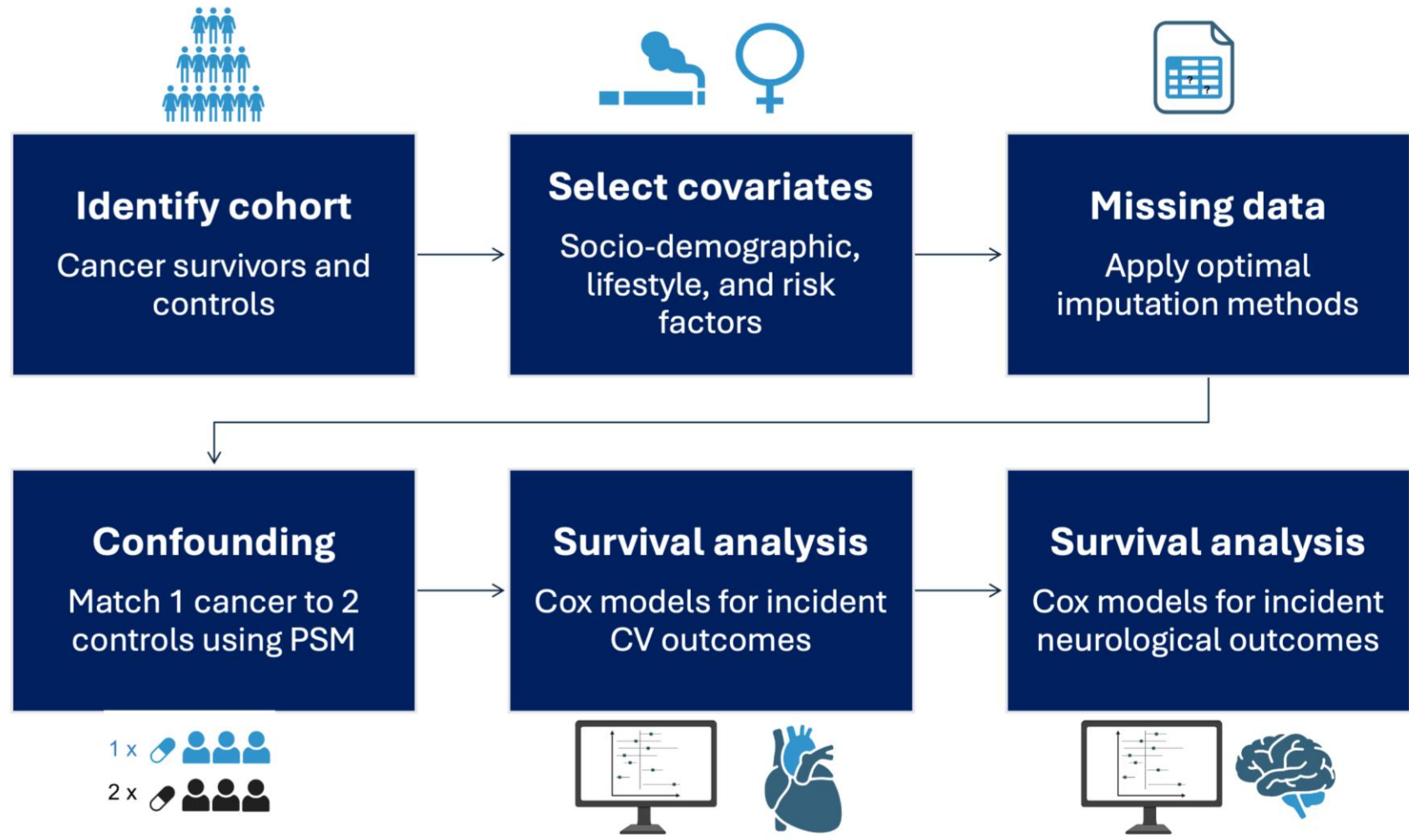
- Cancer and its treatments increase the risk of disease across multiple organ systems.
- Cancer prognosis is improving.
- Understanding long-term health risks of cancer survivors is critical to delivering optimised prevention and post-treatment care.
- This is the first large-scale longitudinal study to examine cardiac and neurological health risks in cancer survivors.

AIMS

Investigate long-term cardiovascular (CVD) and neurological disease (ND) risk in cancer survivors using linked health data from UK Biobank

- 1 Estimate long-term CVD and ND risk in cancer survivors
- 2 Identify high-risk cancer groups (have high HRs and/or have elevated HRs across multiple outcomes)

METHODS



RESULTS

	Cancer Survivors n = 34,878	Non-Cancer Controls n = 68,324
	60 years [IQR: 54-65]	61 years [IQR: 56-65]
	97 % White 0.8% Black 1.0% Asian 0.6% Mixed 0.9% Other	97 % White 0.7% Black 0.9% Asian 0.5% Mixed 0.9% Other
	10% Current Smokers 39% Previous Smokers 50% Never <1% Prefer not to say	11% Current Smokers 39% Previous Smokers 50% Never <1% Prefer not to say
	Follow up: 13.6 [12.8-14.3] years	Follow up: 13.6 [12.9-14.4] years

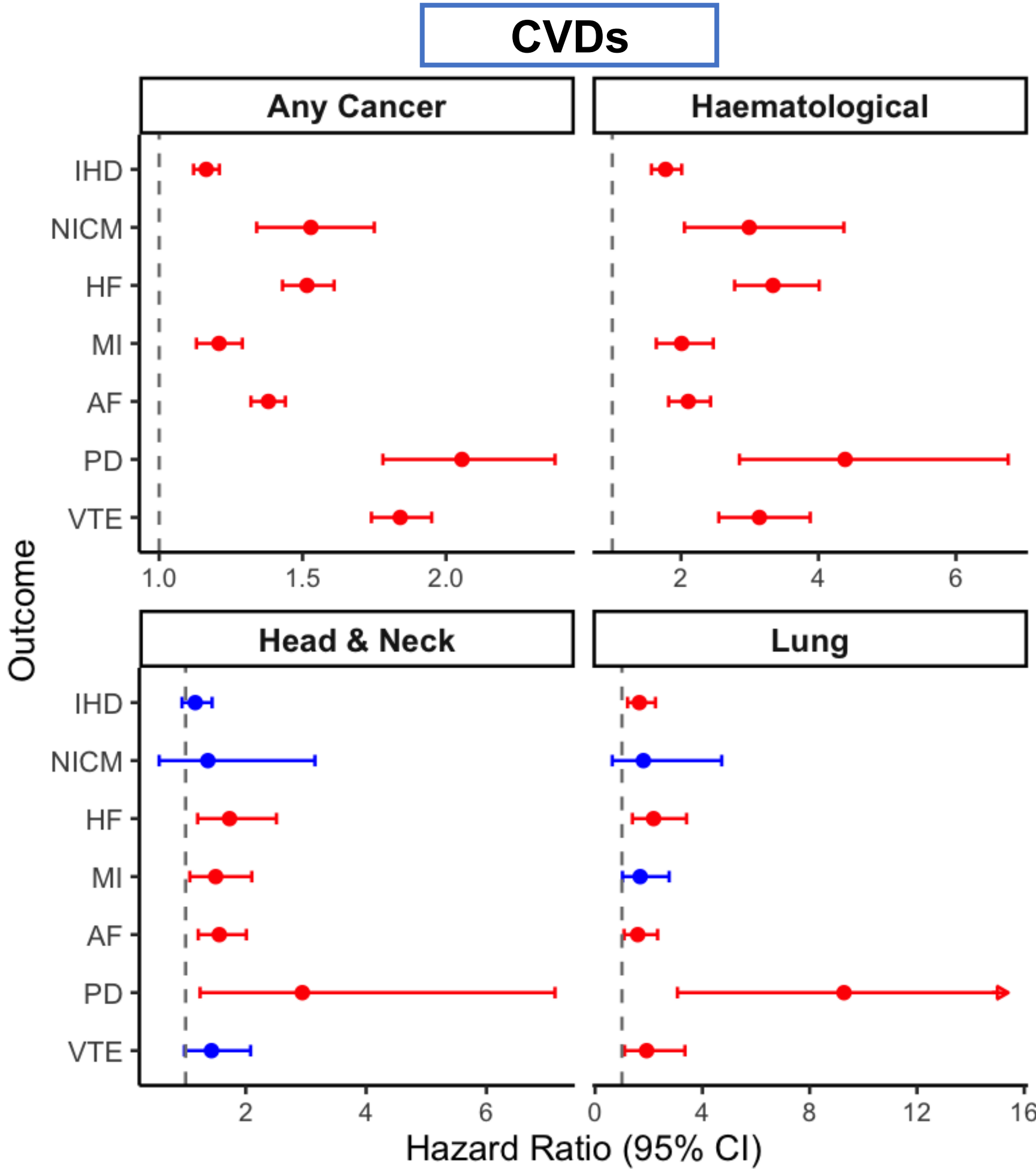


Figure 1. Forest plot of Cox regression models for associations between cancer history and cardiac diseases. Abbreviations: IHD = ischaemic heart disease, NICM = non-ischaemic cardiomyopathies, HF = heart failure, MI = myocardial infarction, AF = atrial fibrillation/flutter, PD = pericardial disease, VTE = venous thromboembolism

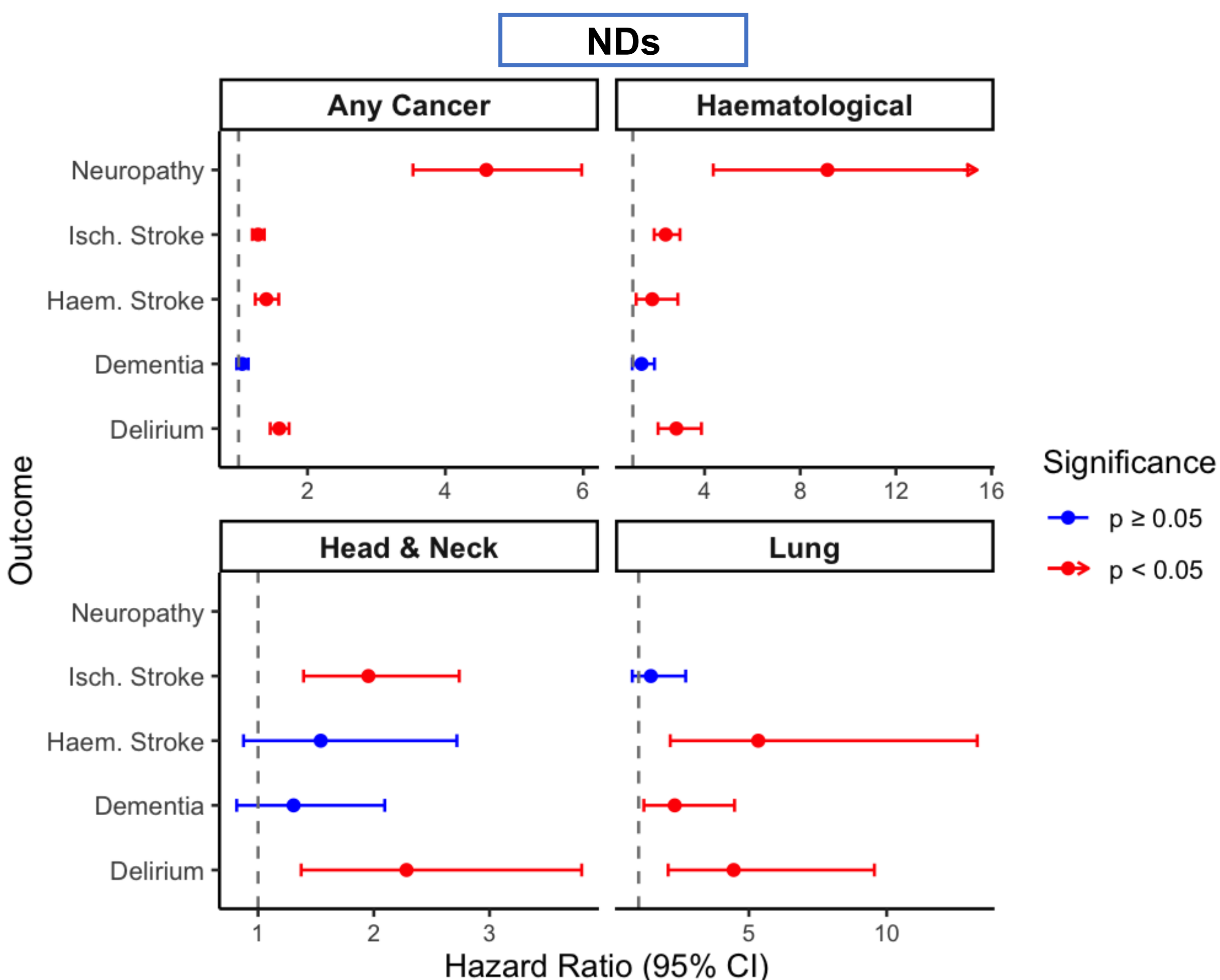


Figure 2. Forest plot of Cox regression models for associations between cancer history and neurological diseases. Abbreviations: Neuropathy = peripheral neuropathy, Isch. Stroke = ischaemic stroke, Haem. stroke = haemorrhagic stroke

Key Findings

- ✓ Cancer survivors had an increased risk of **incident CVD and ND**
- ✓ The highest cardiovascular risks were observed among haematological, lung, and head and neck cancer survivors
- ✓ Largest risk increases in these groups were observed in **pericardial disease** [HRs = 2.9-9.3, 95% CIs: 1.2-36.5, p<0.02]
- ✓ **Lung** cancer exhibited the **highest** HR of incident **pericardial disease** across all cancer types [HR = 9.3, 95% CI: 3.1-36.5, p<0.05]
- ✓ **Haematological** cancer survivors had an elevated risk of **all neurological diseases, except dementia** [HRs: 1.4-9.1, 95% CIs: 1.1-19.1, p<0.02]
- ✓ **Head and neck** cancer survivors had a higher incidence of **ischaemic stroke** and **delirium** [HRs = 2.0-2.3, 95% CIs: 1.4-3.8, p<0.001]
- ✓ **Lung** cancer survivors had an increased hazard of **haemorrhagic stroke**, all-cause **dementia**, and non-post-operative **delirium** [HRs = 2.3-5.3, 95% CIs: 1.2-13.2, p<0.02]

CONCLUSIONS

- Cancer survivors face significantly elevated long-term risks of incident CVD and ND
- High-risk groups comprise haematological, lung, and head and neck cancers
- Findings highlight the need for targeted monitoring in these high-risk cancer survivor populations
- Protecting cancer survivors against cardiovascular and neurological health complications should be prioritised through prevention and tailored post-treatment care

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