P02: Using English linked population-based electronic health records to understand respiratory outcomes after cancer over the course of survivorship.

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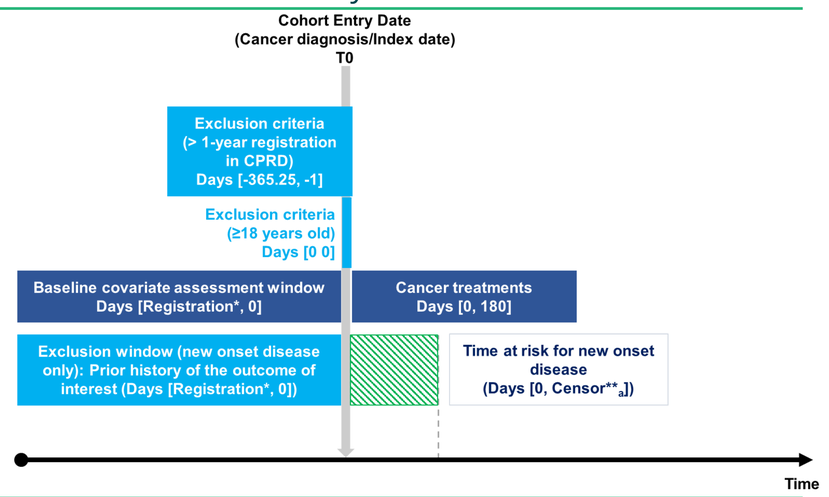
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INTRODUCTION

Cancer and its treatment can adversely affect lung health[1], but the long-term respiratory risks in adult cancer survivors remain unclear.
Aim: We compared the risk of developing **new-onset chronic conditions**, specifically, **asthma,** chronic obstructive pulmonary disease (**COPD**), **bronchiectasis** and interstitial lung disease (**ILD**) in survivors of 20 common cancers to individuals without a cancer history

METHODS

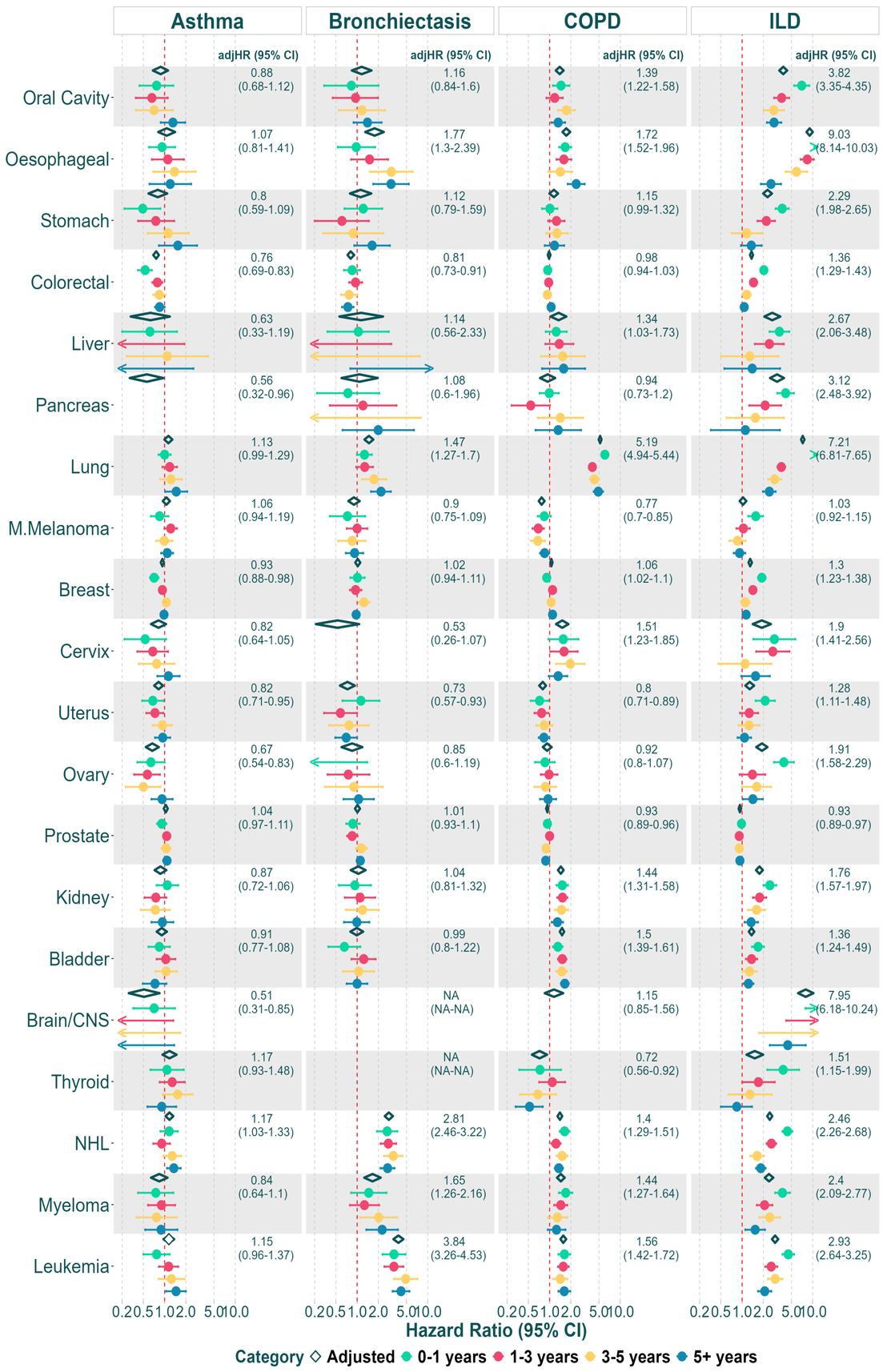
Study design: Retrospective matched cohort study
Data source: Anonymised routinely collected primary care data (CPRD) linked to hospital data (HES-APC), cancer registry (NCRAS), treatment (SACT & RTDS) in England.
Study population: People with new cancer between 1999 - 2018 matched without replacement to up to 10 controls with no prior history of any cancer, on birth year (±, 3 years), GP practice and sex at the date of first cancer diagnosis. Follow up censored at the earliest of 31Dec 2019, end of data availability, GP deregistration, new primary cancer diagnosis, or death
Statistical analysis: We calculated relative risks using adjusted Cox models that accounted for the matching factors as well as BMI, IMD quintiles, smoking, and pre-existing comorbidities (excluding the outcome). Absolute risks were derived from adjusted incidence rate differences for new-onset disease



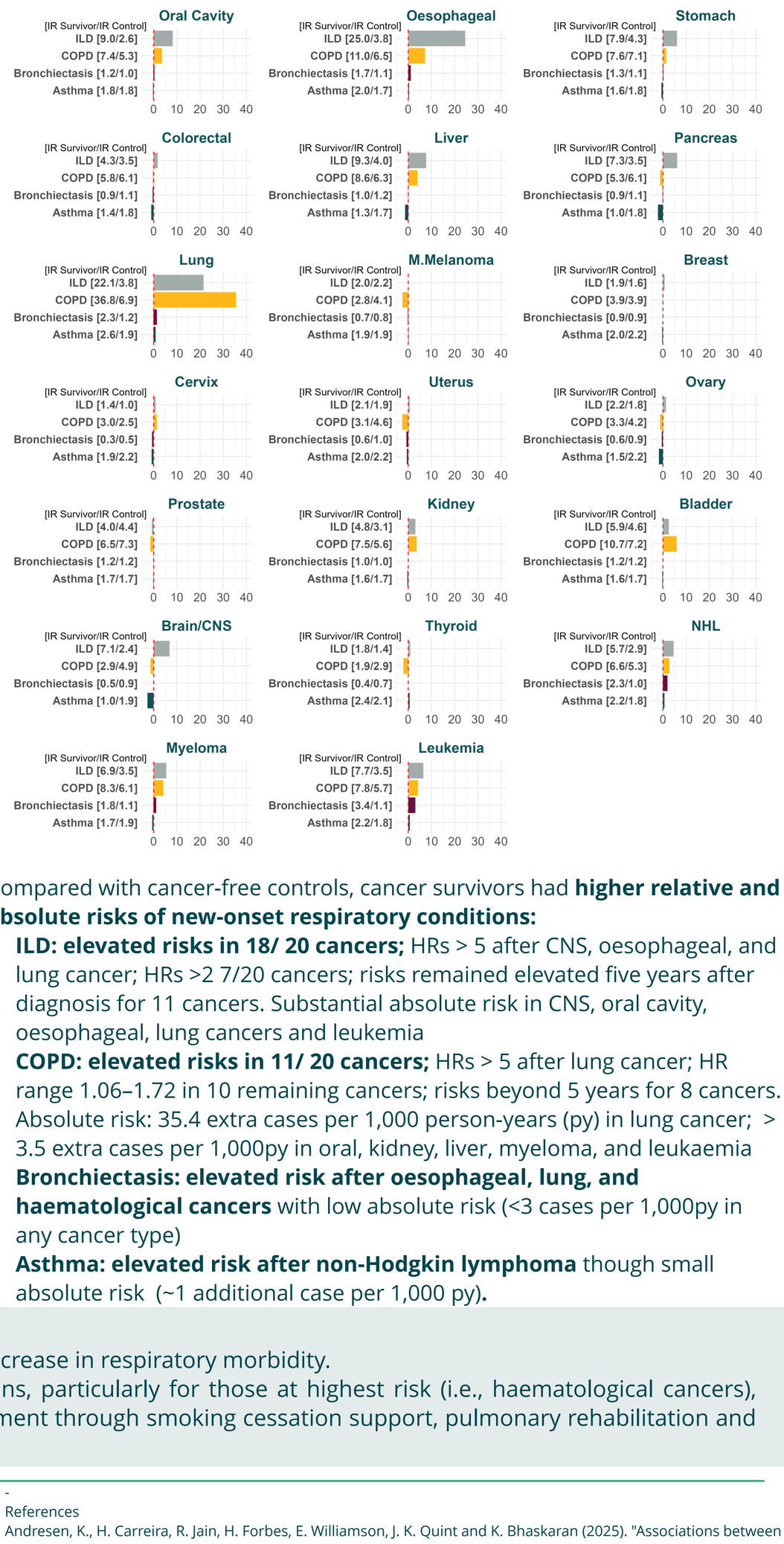
RESULTS

789,254 adults with incident cancer vs 7,794,882 cancer free individuals matched on age at diagnosis, sex & GP practice

Relative risks - Adjusted Hazard ratio (95% CIs) by time since diagnosis



Absolute risks - Adjusted rate difference & incidence rate (IR))



Compared with cancer-free controls, cancer survivors had **higher relative and absolute risks of new-onset respiratory conditions:**

- **ILD: elevated risks in 18/ 20 cancers;** HRs > 5 after CNS, oesophageal, and lung cancer; HRs >2 7/20 cancers; risks remained elevated five years after diagnosis for 11 cancers. Substantial absolute risk in CNS, oral cavity, oesophageal, lung cancers and leukemia
- **COPD: elevated risks in 11/ 20 cancers;** HRs > 5 after lung cancer; HR range 1.06–1.72 in 10 remaining cancers; risks beyond 5 years for 8 cancers. Absolute risk: 35.4 extra cases per 1,000 person-years (py) in lung cancer; > 3.5 extra cases per 1,000py in oral, kidney, liver, myeloma, and leukaemia
- **Bronchiectasis: elevated risk after oesophageal, lung, and haematological cancers** with low absolute risk (<3 cases per 1,000py in any cancer type)
- **Asthma: elevated risk after non-Hodgkin lymphoma** though small absolute risk (~1 additional case per 1,000 py)**.**

CONCLUSION

Survivors of many cancer types face a substantial and sometimes prolonged increase in respiratory morbidity.
Integrating routine respiratory health assessments into survivorship care plans, particularly for those at highest risk (i.e., haematological cancers), could enable earlier detection and better chronic respiratory disease management through smoking cessation support, pulmonary rehabilitation and targeted vaccine uptake strategies.

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References
Andresen, K., H. Carreira, R. Jain, H. Forbes, E. Williamson, J. K. Quint and K. Bhaskaran (2025). "Associations between cancer survivorship and subsequent respiratory disease: a systematic literature review." BMJ Open Respir Res 12(1).