

Blood tests as early markers for upper gastrointestinal cancers in electronic healthcare records

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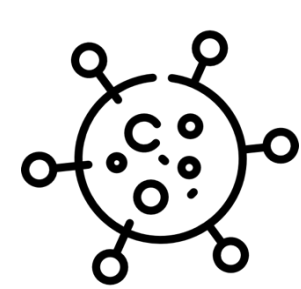
Introduction

- Abnormal lab test results are associated with increased risk of subsequent upper gastrointestinal (UGI) cancer diagnosis
- Little is known about how levels of routine blood tests change in the lead up to cancer diagnosis
- We aimed to identify temporal trends between common blood tests and four UGI cancer types to inform early detection interventions

Methods



Matched case-control study using CPRD Aurum [1]

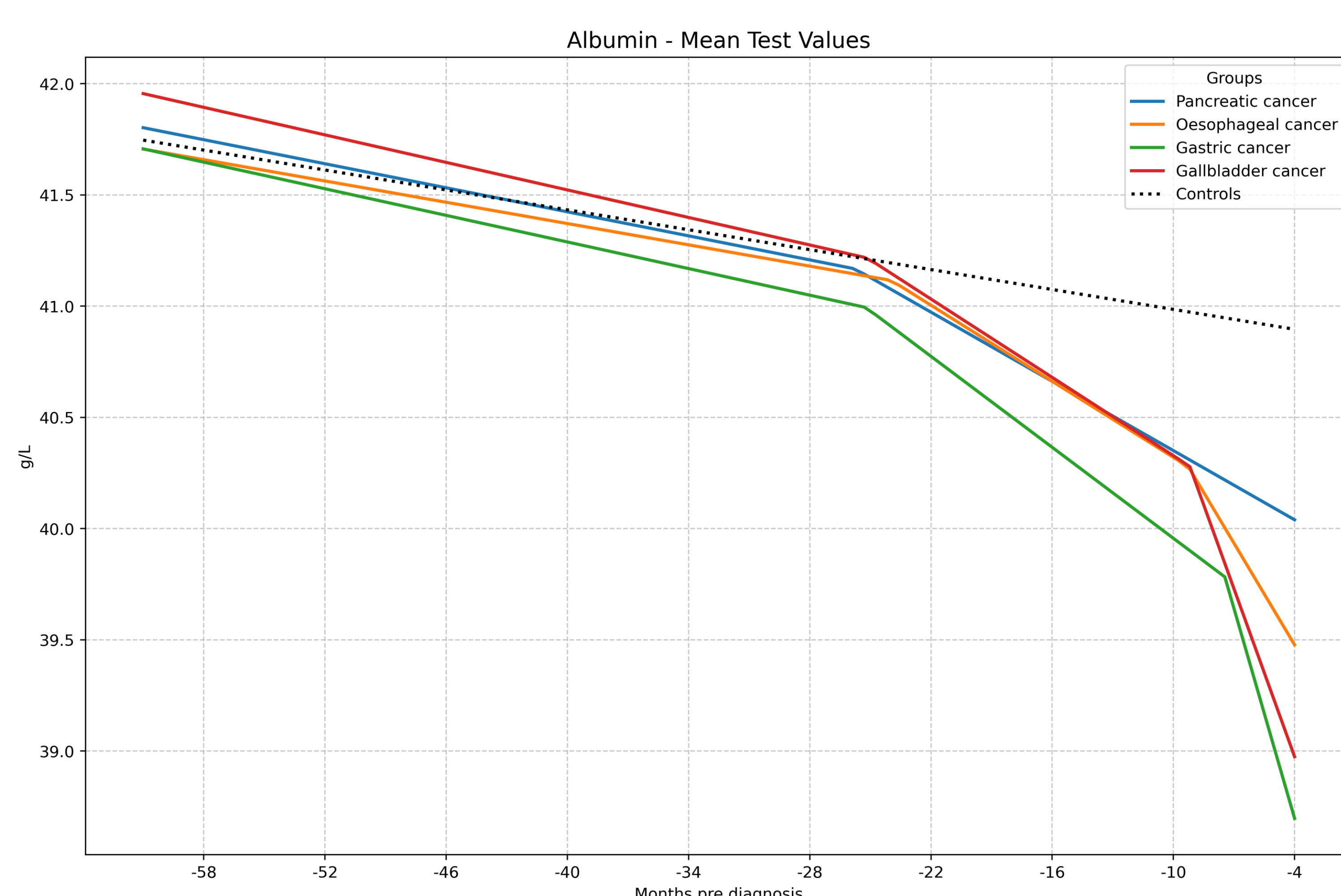
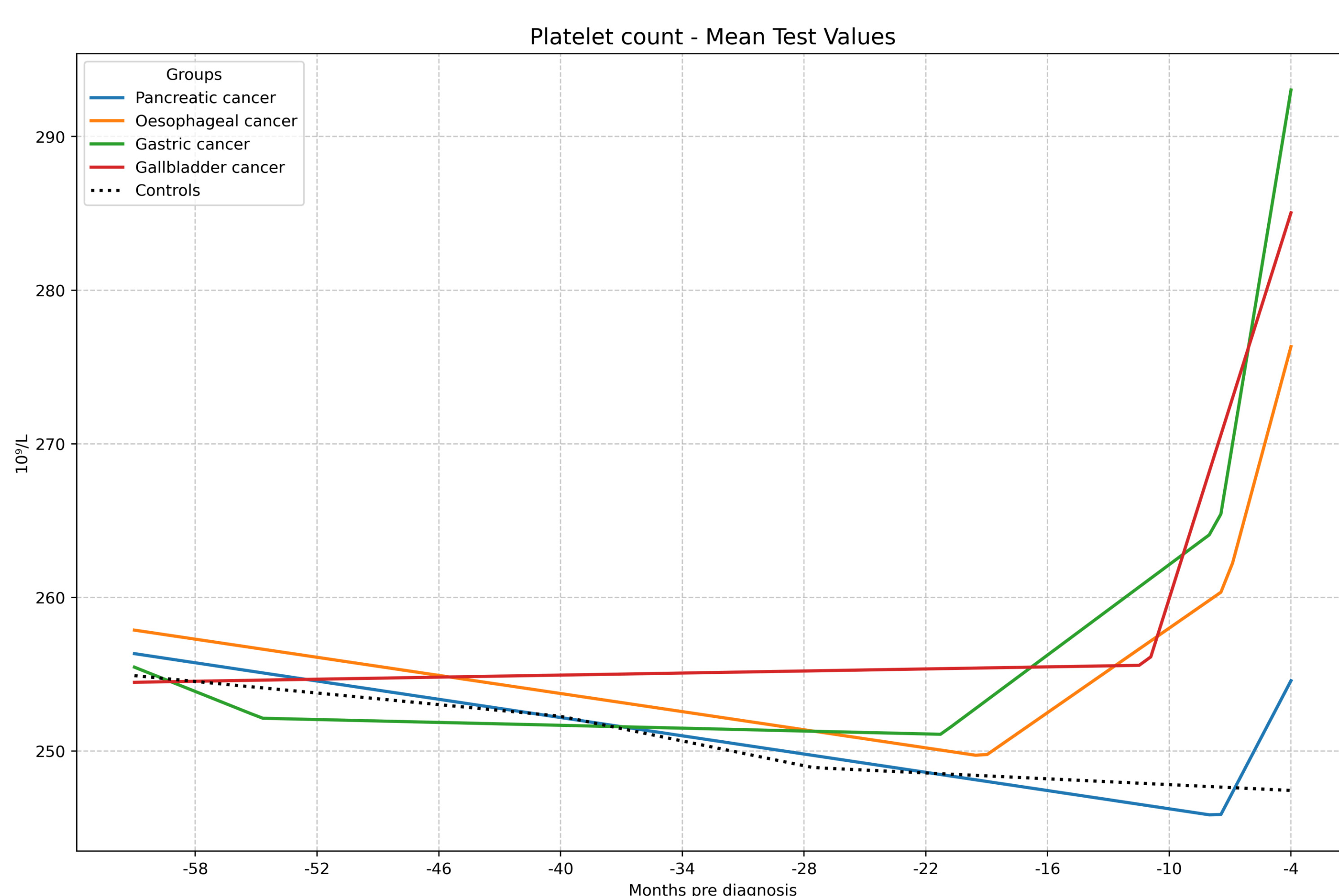
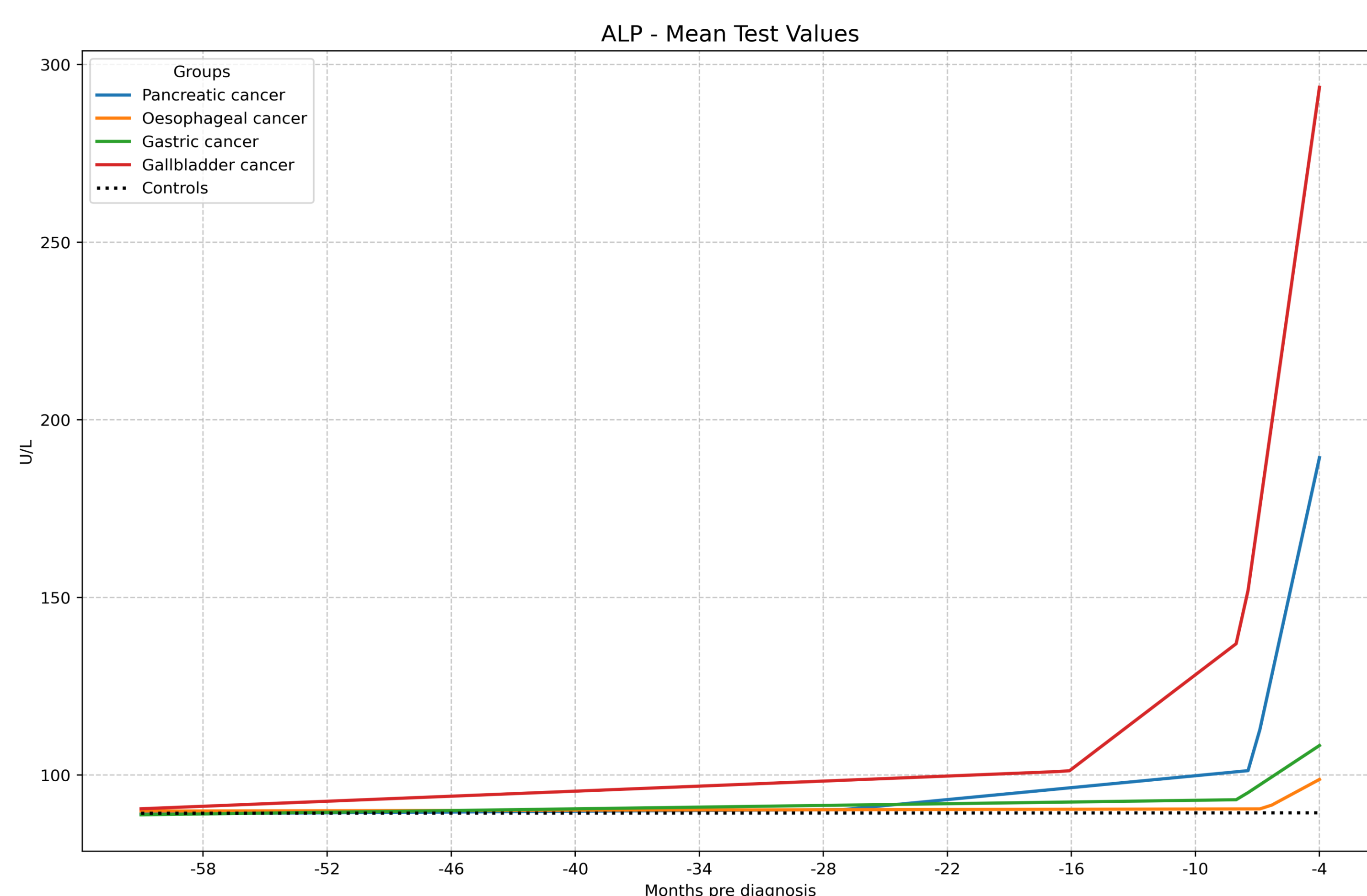
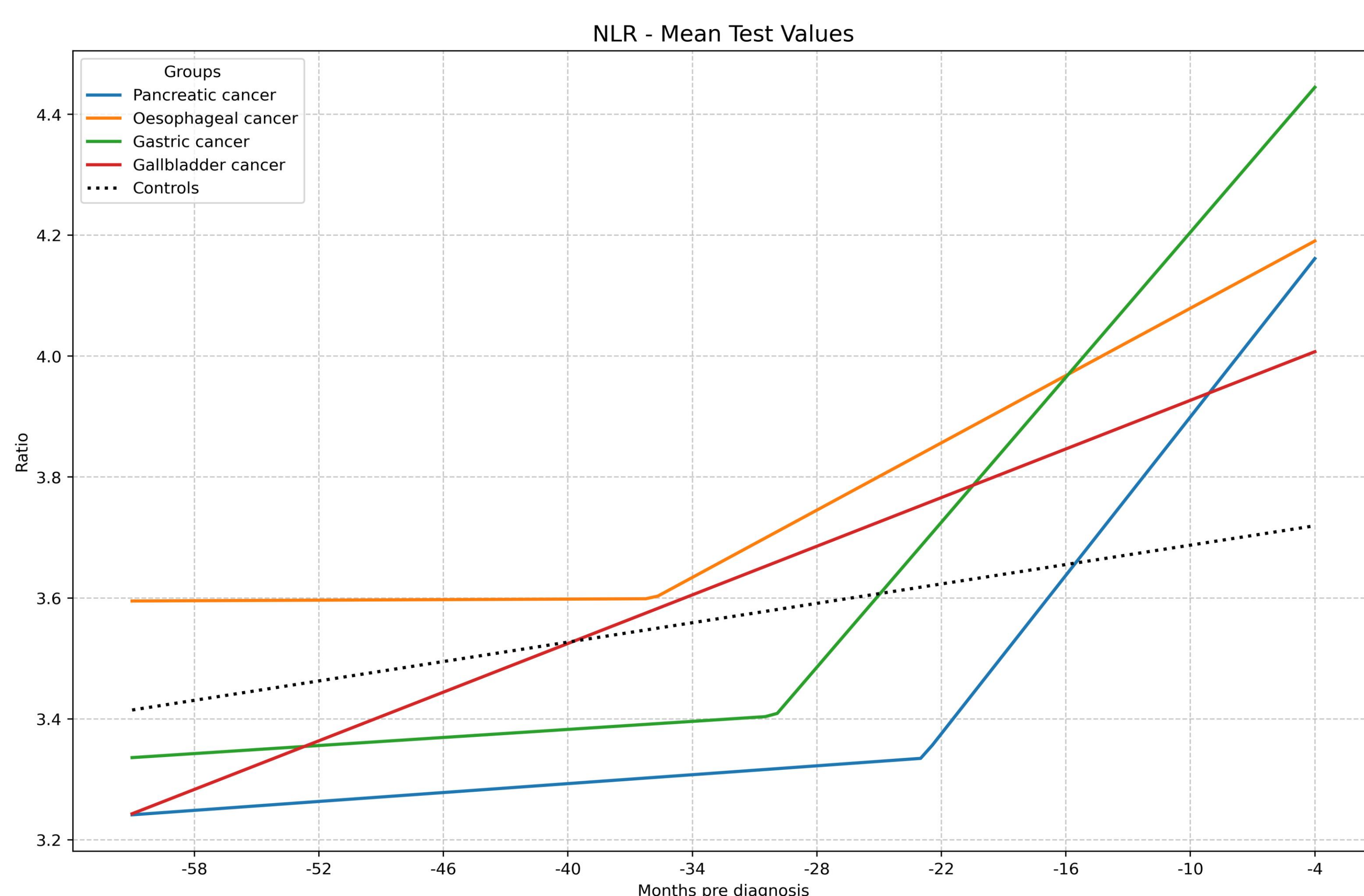


12,990 pancreatic, 11,576 oesophageal, 8,452 gastric and 2,691 gallbladder cancer cases. Matched on age, sex and practice to 178,418 control patients



Joinpoint models were fitted to each test and group to examine 5-year trends in mean levels of 21 blood tests [2]

Results



Key messages

- Mean levels of 16 common blood tests changed from baseline ≥ 12 months before diagnosis for at least one cancer type
- Early rapid changes in neutrophil-lymphocyte ratio, platelets and albumin were observed for several cancers
- Late rapid increase in alkaline phosphatase was observed for pancreatic and gallbladder cancer

Findings show that several routine blood tests are early markers for UGI cancer and could contribute to cancer risk prediction.

References and Acknowledgements

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- Pilgrim C. piecewise-regression (aka segmented regression) in Python. *J Open Source Softw.* 2021 Dec 2;**6**(68):3859.

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