



Investigating the causal effect of previously reported therapeutic agents for colorectal cancer prevention: a Mendelian randomization analysis

Ella Fryer

University of Bristol, United Kingdom

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Supervised by James Yarmolinsky, Philip Haycock, Richard Martin

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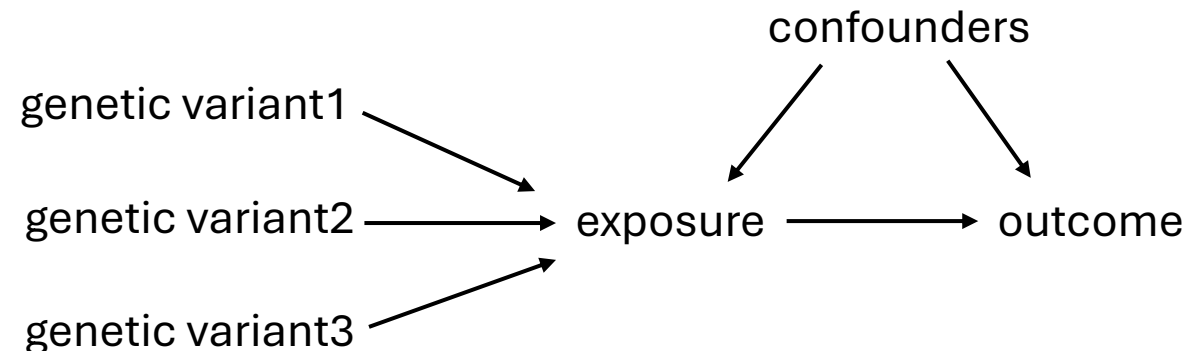
Introduction

- Colorectal cancer (CRC) is the 3rd most common cancer worldwide
- Preventive pharmacological therapy potential strategy to reduce incidence
- Numerous agents (e.g. drugs, micronutrients, hormones) identified in observational studies to reduce CRC risk
- We aimed to re-evaluate these observed relationships using Mendelian randomization

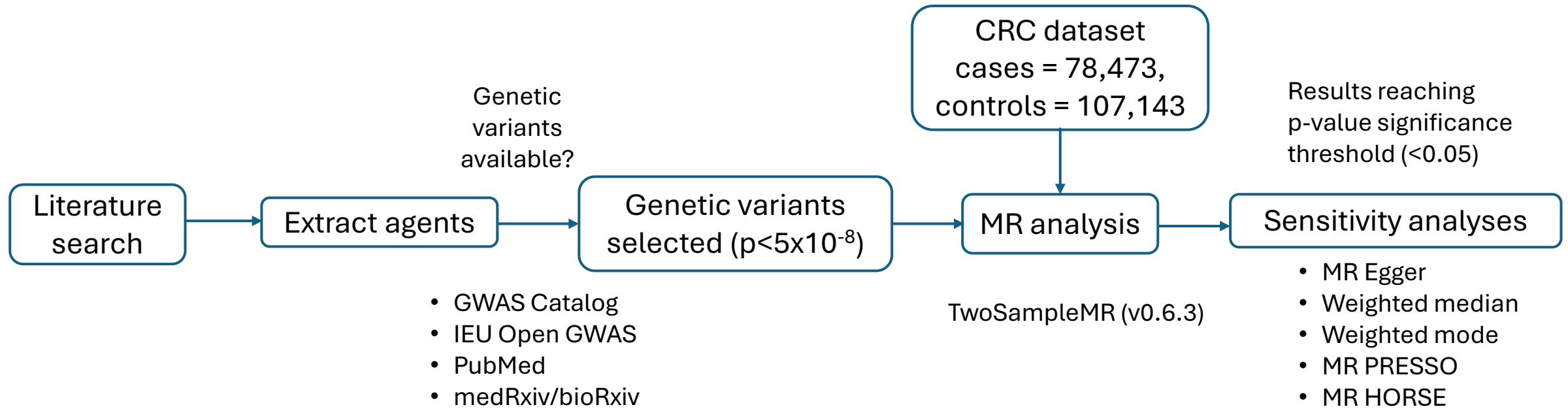


Mendelian randomization (MR)

- MR is a type of genetic study that mimics an RCT – uses genetic variants as proxies for exposures
- As genetic variants are fixed at conception, MR studies should not be affected by reverse causation



Methods

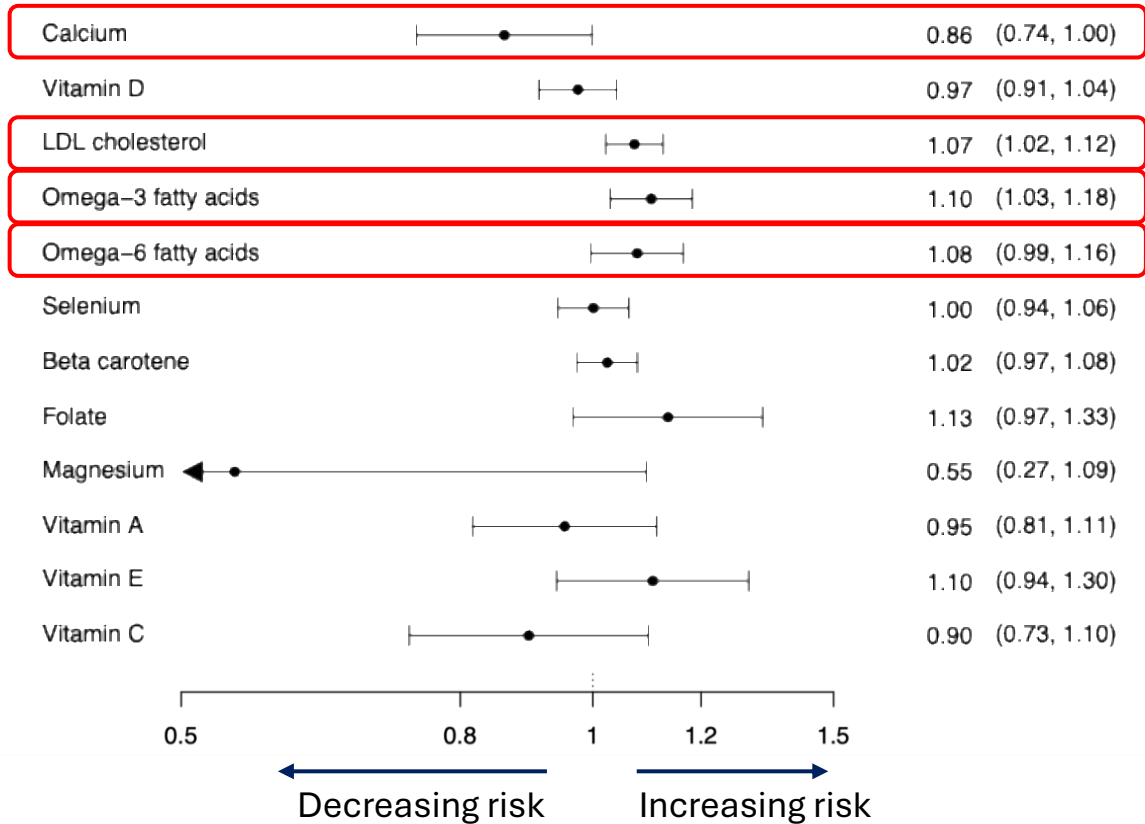


Protocol paper available
(<https://doi.org/10.12688/wellcomeopenres.20861.2>)

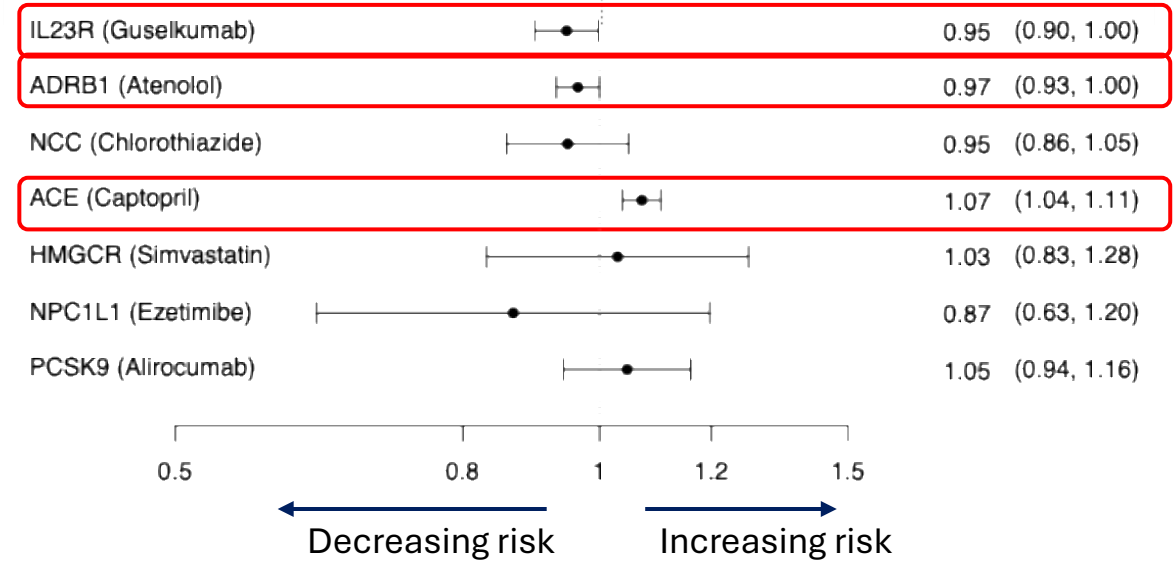


Results

Odds ratio (95% CI) per SD **increase** in genetically proxied micronutrients

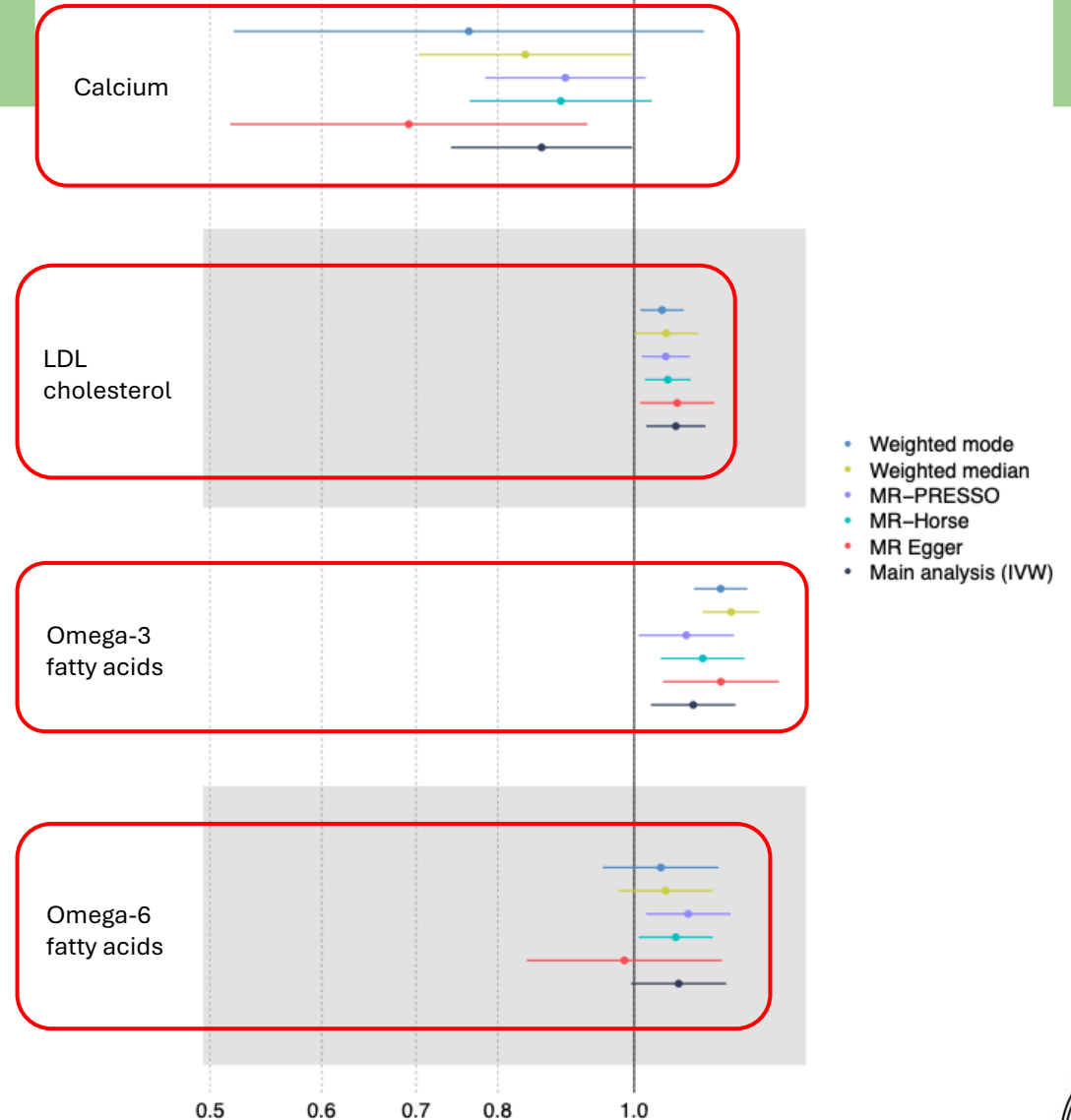


Odds ratio (95% CI) per SD **decrease** in genetically proxied drug targets



Sensitivity analyses

Odds ratio (95% CI) per SD increase in genetically proxied micronutrients



Discussion

- Calcium agrees with a meta-analysis of RCTs
- Omega-3 finding contradicts observational evidence, difficult to disentangle the effect of omega-3 and 6 fatty acids
- Blood based biomarkers don't always correlate with dietary intake
- LDL cholesterol risk increasing effect, lipid lowering drugs null effect



Thank you.

