

THE ASSOCIATION BETWEEN HAVING A LONG-TERM CONDITION AND UPTAKE OF POPULATION-BASED SCREENING FOR COLORECTAL CANCER

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Background

Colorectal cancer (CRC) is a common form of cancer and the second-leading cause of cancer-related mortality in a number of developed countries. Five-year survival in the UK is less than 50%. Within England, invitations for CRC screening are sent once every two years to men and women aged 60 to 74 by the national screening programme. Uptake of CRC screening is associated with reduced mortality, but little is known about the impact of having a long-term condition (LTC) on uptake. Our objective was to examine the association between having LTC and uptake of population-based screening for CRC.

Methods and data used

Linked Yorkshire Health Study (YHS) to English Bowel Cancer Screening Programme (BCSP)

The YHS is a longitudinal observational regional health study. It includes self-report data on 11 named LTCs, along with a free-text 'other' LTC. It also includes evidence on participant's demographics (age, sex and ethnicity) and broader determinants of health (deprivation, education, smoking status, alcohol consumption and physical activity levels). The BCSP contains evidence on the uptake of CRC screening within England, and was defined to be if the participant had ever received an adequate screen following an invitation for screening.

Linkage was based on YHS participants who had provided consent for researchers to look at their health records, and were eligible to be invited for CRC screening. Approvals were gained from both data holders and from NHS REC (15/YH/0028). The study protocol and statistical analysis plan were pre-registered at ClinicalTrials.gov (<https://t.co/goEeK6gXkO>).

The English Longitudinal Study of Ageing (ELSA)

The ELSA is a nationally representative longitudinal survey designed to generate evidence on ageing and quality of life amongst individuals aged 50 and older. The data used are from Wave 7, collected in 2014/15.

All data, including uptake of CRC-screening were based on self-report. Data were available for 17 LTCs, along with participant's demographics (age, sex and ethnicity) and broader determinants of health (self-perceived social status, education, smoking status, alcohol consumption in the last week, relationship status and frequency of sports or exercise). Cross-sectional weights were used to account for differences in response rates.

Analysis of the ELSA cohort was designed to reflect the analysis of the linked YHS cohort as closely as possible

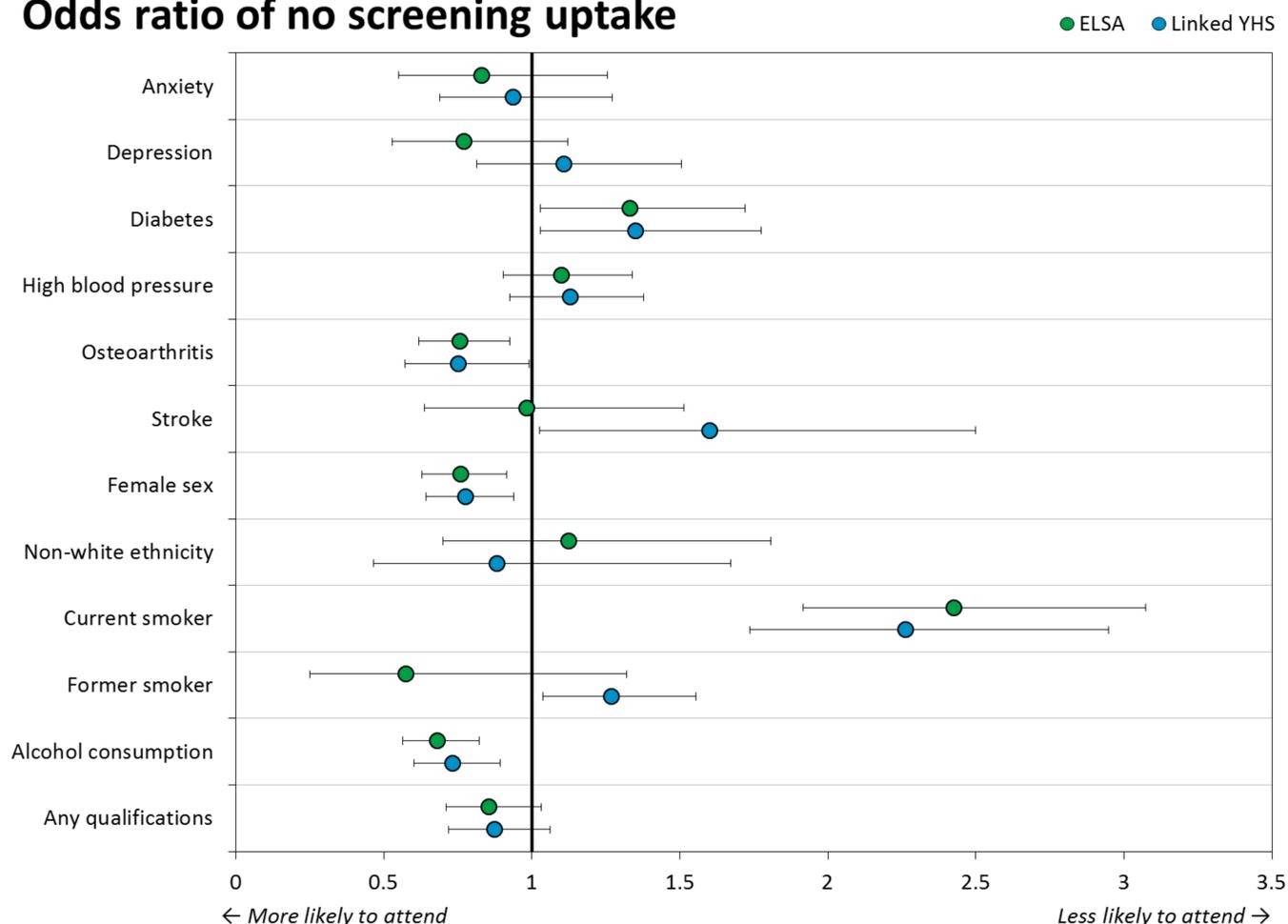
Results and Implications

After data cleaning there were 7,142 participants in the linked YHS and 4,099 participants in the ELSA, with overall participation rates of 84.2% and 80.0% respectively.

From the linked YHS, the occurrence of a stroke or diabetes was associated with increased odds of non-participation, whilst the occurrence of osteoarthritis or a free-text 'other' LTC was associated with increased odds of participation. Of the 17 LTCs in the ELSA, only diabetes and osteoarthritis had a significant association with screening uptake (with the same direction of association as the linked YHS. Odds ratios for the variables that were available for both cohorts are presented in the Figure.

To conclude, two large independent cohorts provided evidence that uptake of CRC screening is lower amongst individuals with diabetes and higher amongst individuals with osteoarthritis. Further work should compare the barriers and facilitators to screening amongst individuals with either of these two conditions. This study also demonstrated the benefits of data linkage for improving clinical decision-making.

Odds ratio of no screening uptake



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