Impact of the COVID-19 pandemic on health services utilisation in a lung cancer screening cohort

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BACKGROUND

The COVID-19 pandemic has caused significant disruption to healthcare services. Participants in lung cancer screening programmes are at elevated risk of lung cancer, have high rates of comorbidities, and therefore may be adversely affected by delayed or cancelled appointments. Analysis of lung health check data collected within the SUMMIT study allow us to quantify the impact on this population.

METHODS

The SUMMIT study aims to assess the implementation of low-dose CT (LDCT) for lung cancer screening in a high-risk population and to validate a multi-cancer early detection blood test (NCT03934866). Enrolled participants attend three annual lung health checks. Participants attending their second (Year 1) lung health check were asked about covid infections and the impact the pandemic had had on their health service utilisation in the preceding year (*"Has your use of health care services been reduced due to the COVID-19 outbreak?"*)

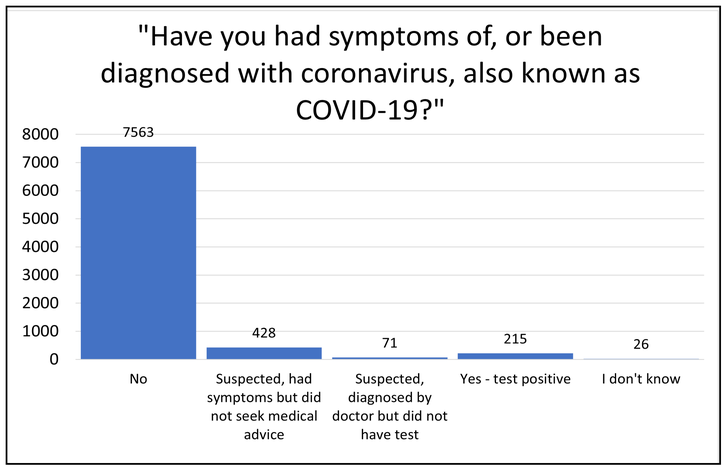

Figure 1: COVID-19 infection in preceding year

RESULTS I: COVID INFECTIONS

8,304 participants completed a Year 1 lung health check between June 2020 and May 2021 (mean age 66.3, IQR 61-71, 4855 (58.5%) male).

215 (2.6%) reported previous test-confirmed covid infection, whilst a further 499 (6.0%) had suspected infection but were not tested. 43 (0.5%) reported admission to hospital for covid-19 infection.

RESULTS II: IMPACT ON HEALTH SERVICE UTILISATION

3333 (40%) reported reduced health service utilisation due to the COVID-19 pandemic. Of those, 3062 (91.9%) stated this was due to the NHS cancelling or delaying appointments, whilst in 204 (6.1%) appointments were cancelled by the participant. Reasons given by participants included not wanting to burden the NHS, difficulty with telephone consultations, and concern from media reports of hospital overcrowding.

Participants with a respiratory comorbidity (COPD, bronchiectasis, asthma, fibrosis, or sarcoidosis, as self-reported at initial study visit) (RR 1.29, p=<0.001) and female participants (RR 1.16, p = <0.001) were more likely to report impacted healthcare utilisation (**table 1**). Reported impact on healthcare use was not significantly affected by age or socioeconomic quintile.

	Reduced use of healthcare services due to the COVID-19 pandemic/Total	Relative risk (RR)
Total	**3333/8304 (40.1%)**	
Respiratory comorbidities:		
One or more respiratory comorbidities	1388/2957 (47.0%)	**RR 1.29**, p = <0.001*
No respiratory comorbidity	1945/5344 (36.4%)	
Gender:		
Male	1823/4855 (37.5%)	**RR 1.16**, p = <0.001*
Female	1510/3446 (43.8%)	
Age:		
55-59	545/1356 (40.1%)	-
60-69	1710/4216 (40.6%)	**RR 1.01** p = 0.835
70-79	1078/2729 (39.5%)	**RR 0.98** p = 0.696
Deprivation quintile:		
Quintile 1 (most deprived)	983/2474 (39.7%)	-
Quintile 2	932/2327 (40.0%)	RR 1.01, p = 0.845
Quintile 3	599/1510 (39.7%)	RR 1.00, p = 0.995
Quintile 4	606/1431 (42.3%)	RR 1.07 p = 0.117
Quintile 5 (least deprived)	152/418 (36.6%)	RR 0.92 p = 0.247

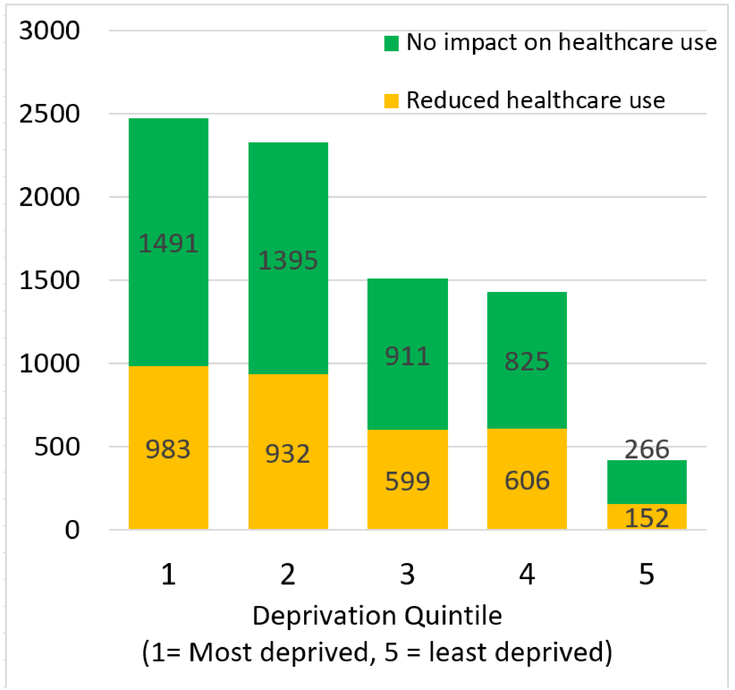

Figure 2: Impact on health service utilisation by deprivation decile

DISCUSSION

40% of individuals in a cohort at high risk of lung cancer and respiratory comorbidities reported reduced utilisation of health care services due to the COVID-19 pandemic.

Limitations to our data include the lung health check questions not distinguishing between primary and secondary care or routine and urgent visits, and self-reported co-morbidity data limited to selected respiratory conditions. Nevertheless, we provide evidence for the scale of the problem and highlight that individuals with chronic respiratory conditions are particularly likely to be impacted.

THE SUMMIT STUDY IT'S ABOUT TIME DETECT EARLY. TREAT EARLY. LET'S TACKLE CANCER.

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GRAIL

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