

THE LANCET

Gastroenterology & Hepatology

Supplementary appendix

This appendix formed part of the original submission and has been peer reviewed.
We post it as supplied by the authors.

Supplement to: Markar SR, Clarke J, Kinross J. Practice patterns of diagnostic upper gastrointestinal endoscopy during the initial COVID-19 outbreak in England. *Lancet Gastroenterol Hepatol* 2020; published online July 16. [https://doi.org/10.1016/S2468-1253\(20\)30236-3](https://doi.org/10.1016/S2468-1253(20)30236-3).

Appendix A; Data Sources, Inclusion and Exclusion of Trusts, Projection of undiagnosed oesophageal and gastric cancer methodology & Figures.

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Data Sources

Upper GI diagnostic endoscopy data were obtained from:

- <https://www.england.nhs.uk/statistics/statistical-work-areas/diagnostics-waiting-times-and-activity/monthly-diagnostics-waiting-times-and-activity/>

Data regarding diagnoses of oesophageal and gastric cancer were obtained from:

- <https://www.nogca.org.uk/reports/2019-annual-report/>

General and acute hospital bed numbers were obtained for each trust for the first quarter of 2019 (January to April inclusive) and the first quarter of 2020 from:

- <https://www.england.nhs.uk/statistics/statistical-work-areas/bed-availability-and-occupancy/bed-data-overnight/>

The total number of COVID-19 deaths accrued to 13th June 2020 were obtained for each trust from:

- <https://www.england.nhs.uk/statistics/statistical-work-areas/covid-19-daily-deaths/>

Inclusion & Exclusion of Trusts

Trusts were included if they provided endoscopy services in the period from January 2019 to April 2019 and from January 2020 to April 2020. Trusts were excluded if they were specialist trusts not providing routine endoscopy care or paediatric trusts or had incomplete data for either period:

Non-completion of 2020 data:

- North West Anglia Foundation Trust
- Royal Berkshire NHS Foundation Trust

Variable 2019 data:

- The Princess Alexandra Hospital NHS Trust

Community Trusts:

- Dorset Healthcare University NHS Foundation Trust
- Southern Health NHS Foundation Trust

Specialist Hospital Trusts:

- Liverpool Heart and Chest Hospital NHS Foundation Trust
- The Christie NHS Foundation Trust
- Alder Hey Children's NHS Foundation Trust
- Birmingham Women and Children's NHS Foundation Trust
- Great Ormond Street Hospital for Children NHS Foundation Trust
- Sheffield Children's NHS Foundation Trust

During the study period several trusts merged to form either new trusts, or to persist as one of the merged trusts as follows:

- Cumbria Partnership NHS Foundation Trust and North Cumbria University Hospitals NHS Trust merge to form North Cumbria Integrated Care NHS Foundation Trust
- Aintree University Hospital NHS Foundation Trust and Royal Liverpool and Broadgreen University Hospitals NHS Trust merge to form Liverpool University Hospitals NHS Foundation Trust
- City Hospitals Sunderland NHS Foundation Trust and South Tyneside NHS Foundation Trust merge to form South Tyneside and Sunderland NHS Foundation Trust
- Somerset Partnership NHS Foundation Trust and Taunton and Somerset NHS Foundation Trust merge to form Somerset NHS Foundation Trust
- Southend University Hospital NHS Foundation Trust, Mid Essex Hospital Services NHS Trust and Basildon and Thurrock University Hospitals NHS Foundation Trust merge to form Mid and South Essex NHS Foundation Trust
- University Hospitals Bristol NHS Foundation Trust and Weston Area Health NHS Trust merge to form University Hospitals Bristol and Weston NHS Foundation Trust

All trusts that merged were treated as a single trust throughout the study. Where data were recorded for trusts separately prior to a merger, they were added together to provide totals for each trust in its current merged form.

Projection of undiagnosed oesophageal and gastric cancers methodology

Data from NHS digital was retrieved for the number of diagnostic OGDs performed by each hospital trust in England from 1st January 2020 to 30th April 2020, this was then compared to a historical cohort from these same trusts from 1st January 2019 to 30th April 2019. From this comparison it was possible to calculate the percentage change in diagnostic OGD in each hospital trust associated with COVID-19 pandemic. Data from the National Oesophago-Gastric Cancer audit 2019, published the number of oesophageal and gastric cancers diagnosed by each hospital trust over a two-year period from 1st April 2016 to 31st March 2018 [6]. Furthermore data provided also includes the number of cancers treated curatively by each hospital trust and each cancer Vanguard (regional cancer partnership). This data was used to estimate number of cancers that may have been diagnosed and previously would have been allocated to curative treatment over the four month period 1st January 2020 to 30th April 2020. The percentage change in diagnostic upper gastrointestinal endoscopy along-with the estimated number of cancers from the national audit, were combined to calculate the estimated number of undiagnosed cancers during this study period and specifically those that would have received curative treatment.

Figure

1a; Percentage change in OG endoscopy by number of COVID deaths per bed in each hospital trust

1b; Percentage change in OG endoscopy by number of COVID deaths per bed in cancer vanguard

1c; Estimated number of undiagnosed cancers by cancer vanguard.

2d; Estimated number of undiagnosed potential curable cancers by cancer vanguards

