

## The Impact of SARS-CoV-2 on Two Colorectal Cancer Screening Centres

É.Ring<sup>1,2</sup>, C. Conlon<sup>1</sup>, H. Kerr<sup>1</sup>, J. Cudmore<sup>1</sup>, S. King<sup>1</sup>, J. O'Grady<sup>1</sup>, S. Devlin<sup>2</sup>, P.Fitzpatrick<sup>3,4</sup>, J. Leyden<sup>1,4</sup>, G. Cullen<sup>2,4</sup>, P. MacMathúna<sup>1,3,4</sup>, G. Doherty<sup>2,4</sup>, C. Lahiff<sup>1,4</sup>

1. The Mater Misericordiae University Hospital Dublin.
2. St Vincents University Hospital Dublin
3. BowelScreen Ireland
4. University College Dublin

### Abstract

#### Aim

BowelScreen paused activity in March 2020 to prioritise the response to the COVID-19 pandemic. The aim of this study was to examine the impact of this delay.

#### Methods

Cases affected by the pause and subsequently completed were compared to the same period in 2019. Endoscopy and histology data were obtained from the BowelScreen database and patient records.

#### Results

One-hundred and seven colonoscopies were performed during the study period. This compared with 224 colonoscopies during the same period in 2019. Median lead time to colonoscopy in 2020 was 74 days compared to 34 days in 2019. Adenoma detection rate was 59% for both periods. Advanced adenoma and cancer detection rates were similar in both periods.

#### Discussion

While there was a marked reduction in activity and significant delays for BowelScreen patients during the first wave of the COVID-19 pandemic, this does not appear to have impacted on clinical outcomes for patients who attended for screening colonoscopy.

## **Introduction**

COVID-19 is the clinical illness caused by SARS-CoV-2, an RNA virus which was first identified in December 2019 in China<sup>1</sup>, and which has led to a global pandemic. The European Society of Gastrointestinal Endoscopy, American Gastroenterology Association and the British Society of Gastroenterology advised considering pausing colorectal cancer (CRC) screening programmes for a minimum of six weeks in early March 2020<sup>2-4</sup>. BowelScreen, the National Bowel Screening Programme, offers free bowel screening to men and women aged 60 to 69 every two years. Colonoscopy is offered to patients who return a positive faecal sample for occult blood (FIT). A positive FIT occurs when at least 40mcg/g of blood is detected in a stool sample. Colonoscopies are performed at accredited centres by consultant endoscopists.

As the pandemic reached Ireland in March 2020 and health services reconfigured to focus energies on tackling the pandemic, BowelScreen paused screening activity. This inevitably led not only to missed screening opportunities but also to delays for some patients who had already returned a positive FIT test. Prolonged delays in time to colonoscopy following positive FIT is associated with a higher incidence of CRC as well as more advanced stage cancer at time of diagnosis<sup>5</sup>.

## **Methods**

We performed a retrospective review of index FIT positive colonoscopies performed in two high volume BowelScreen centres during the period of mid-March to mid-July 2020. BowelScreen procedures for the corresponding period in 2019 were analysed as a control group. Endoscopy and histology data were obtained from the BowelScreen database and patient records. In the 2020 cohort, patients were screened for COVID-19 in advance of their procedure.

## **Results**

There was a 53% reduction in BowelScreen index colonoscopy activity in 2020 when compared to the same period in 2019. Table one demonstrates that the lead time to colonoscopy in 2020 was more than double that in 2019. The two groups were similar in respect of their demographics and colonoscopy completion (caecal intubation) rates. Adenoma yields were similar across both years. This was notably true for polyps greater than 10mm at 27% in 2020 and 28% in 2019. Cancer detection rates were also similar across both groups (4%). No patient was known to have contracted COVID-19, as per the national contact tracing policy of that time, as a result of their colonoscopy.

<b>Table 1.</b>	<b>2019</b>	<b>2020</b>
<b>No of colonoscopies</b>	224	107*
<b>Lead time to colonoscopy (days)</b>		
- Median	34**	74
- Range	14-208	16-166
<b>Age</b>		
- Median	63	66
- Range	60-70	60-70
<b>Gender (%)</b>		
- Male	147 (66)	58 (54)
- Female	77 (34)	49 (46)
<b>Caecal intubation (%)</b>	220 (98)	103 (96)
<b>Midazolam</b>		
-Median	4mg	3mg
-Range	0-6mg	0-8mg
<b>Fentanyl</b>		
-Median	50mcg	50mcg
-Range	0-100mcg	0-100mcg
<b>Adenoma Detection (%)</b>	133 (59)	63 (59)
<b>Polyyps ≥10mm (%)</b>	63 (28)	29 (27)
<b>Colorectal Cancer (%)</b>	8 (4)	4 (4)
- Stage I	5	2
- Stage II	1	1
- Stage III	1	1
- Stage IV	1	0

\* Four patients in 2020 were not included as their delay to colonoscopy related to reasons other than the pandemic.

\*\* This figure relates to a subgroup of 60 patients from the 2019 group which were randomly selected.

## Discussion

A 53% reduction in BowelScreen index colonoscopy activity for FIT positive patients occurred in 2020 during the first wave of the COVID-19 pandemic. The median difference in lead time to colonoscopy was 40 days. Despite this, clinical outcomes for patients who attended appear to have been unaffected. Key performance indicators were maintained in the studied time period of 2020 despite increased demands in terms of personal protective equipment and reduced staffing levels. There were no known cases of COVID-19 following colonoscopy although national contact tracing at that time traced contacts up to 48 hours prior to a COVID-19 diagnosis which may not have identified all sources of infections. Cancer detection rates were small in both groups. For that reason, the impact on cancer staging could not be evaluated in detail. This study examines the outcomes of those in whom a positive FIT test was returned prior to the pause on screening. It does not account for patients, and their outcomes, who would have been sent a FIT test were it not for the pandemic. This information is needed to fully evaluate the impact on colorectal screening. The significant reduction in activity necessitated by the pandemic, the effects of which continue to present a challenge, is expected to have an impact on colorectal cancer related mortality for several years<sup>5</sup>.

## Declaration of Interest:

The authors have no conflicts of interest to declare.

## Corresponding Author:

Dr Éabha Ring,  
Gastroenterology Specialist Registrar.  
E-Mail: eabharing@live.com

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