


# One Piece of the Jigsaw for the Cancer Recovery Strategy: Prevalence of COVID-19 in Patients With Cancer

Charlotte Moss, MSc<sup>1</sup>, Saoirse Dolly, PhD<sup>2</sup>, Beth Russell, PhD<sup>1</sup>, Mary Lei, PhD<sup>2</sup>, Sharmista Ghosh, MD<sup>2</sup>, Sophie Papa, PhD<sup>2,3</sup>, Richard Sullivan, PhD<sup>3</sup>, Mieke Van Hemelrijck, PhD<sup>1</sup> , and Anne Rigg, PhD<sup>2</sup>;  
on behalf of Guy's Cancer Real World Evidence Programme

## Abstract

COVID-19 has forced governments to make drastic changes to healthcare systems. To start making informed decisions about cancer care, we need to understand the scale of COVID-19 infection. Therefore, we introduced swab testing for patients visiting Guy's Cancer Centre. Our Centre is one of the largest UK Cancer Centers at the epicenter of the UK COVID-19 epidemic. The first COVID-19 positive cancer patient was reported on 29 February 2020. We analyzed data from 7-15 May 2020 for COVID-19 tests in our cancer patients. 2,647 patients attended for outpatient, chemotherapy, or radiotherapy appointments. 654 were swabbed for COVID-19 (25%). Of those tested, 9 were positive for COVID-19 (1.38%) of which 7 were asymptomatic. Cancer service providers will need to understand their local cancer population prevalence. The absolute priority is that cancer patients have the confidence to attend hospitals and be reassured that they will be treated in a COVID-19 managed environment.

## Keywords

COVID-19, cancer recovery, public health, UK, prevalence

The COVID-19 pandemic has forced governments, including our own, to make drastic changes to the healthcare system to save lives. While such measures may have reduced COVID-19 morbidity and mortality, there have been serious unintended consequences on society and non-COVID-19 health issues. Well-established pathways to ensure patients with cancer are diagnosed, obtain rapid treatment, and receive ongoing care have been significantly disrupted.<sup>1</sup> This disruption is multifactorial: strong messaging to “stay at home” has been so successful that patients are frightened to attend appointments; there is little scientific literature as yet to guide clinicians about safety of cancer treatments during the pandemic; the clinical workforce has been reduced by COVID-19 illness and redeployment as well as fear about their risk exposures; and the availability and reliability of COVID-19 antigen and antibody testing remains fragmented. Currently, as cancer clinicians and academics, we are deeply concerned about the low numbers of patients presenting either to their GP or hospital services with signs and symptoms suspicious of cancer.

Since the UK is emerging from the pandemic's first peak, cancer recovery strategies are being developed at local/national levels to address associated delayed diagnoses and treatments.<sup>1,2</sup> However, the COVID-19 threat has not disappeared and the challenge is not just to deal with a backlog of work, but to continue to practice in a way that minimizes COVID-19 transmission. In the absence of a vaccine, it is likely that

<sup>1</sup> Faculty of Life Sciences and Medicine, Translational Oncology and Urology Research (TOUR), King's College London, London, United Kingdom

<sup>2</sup> Department of Medical Oncology, Guy's and St Thomas' NHS Foundation Trust, London, United Kingdom

<sup>3</sup> Faculty of Life Sciences and Medicine, School of Cancer and Pharmaceutical Sciences, King's College London, London, United Kingdom

## Corresponding Author:

Mieke Van Hemelrijck, PhD, Faculty of Life Sciences and Medicine, Translational Oncology and Urology Research (TOUR), King's College London, London, United Kingdom.

Email: mieke.vanhemelrijck@kcl.ac.uk



**Table 1.** Descriptive Statistics of Cancer Patients Visiting Guy's Cancer Centre From 7-15 May 2020.

	Cancer patients attending cancer center (N = 2647)	Cancer patients tested (N = 654)	COVID-19 positive cancer patients (N = 9)
Median Age (Q1-Q3)	61.90 (53.10-71.10)	62.00 (53.10-70.50)	53.70 (39.30-60.20)
Sex			
Male	1221 (46.10)	270 (41.30)	6 (66.70)
Female	1426 (53.90)	384 (58.7)	3 (33.30)
Tumor type			
Breast	454 (17.20)	131 (20.00)	1 (11.10)
Urology	356 (13.40)	77 (11.80)	1 (11.10)
Head and Neck	114 (4.30)	26 (3.90)	0 (0.00)
Gastro-Intestinal	517 (19.50)	137 (21.00)	2 (22.20)
Lung	294 (11.10)	78 (11.90)	1 (11.10)
Gynecology	299 (11.30)	73 (11.20)	0 (0.00)
Hematology	225 (8.50)	40 (6.12)	0 (0.00)
Other	388 (14.70)	92 (14.10)	4 (44.40)
Appointment type			
Chemotherapy	511 (19.30)	152 (23.20)	2 (22.20)
Radiotherapy	533 (20.10)	94 (14.40)	1 (1.10)
Outpatients	1603 (60.60)	408 (62.39)	6 (66.67)
Ethnicity			
White	1232 (46.50)	293 (44.80)	2 (22.20)
Black	346 (13.10)	65 (9.90)	2 (22.20)
Asian	70 (2.60)	16 (2.50)	0 (0.00)
Mixed	33 (1.20)	5 (0.80)	0 (0.00)
Other	50 (1.50)	6 (0.90)	0 (0.00)
Missing	926 (35.00)	269 (41.10)	5 (55.60)
SES			
Low	2265 (85.50)	570 (87.20)	7 (77.80)
Middle	48 (1.80)	8 (1.20)	0 (0.00)
High	182 (6.90)	37 (5.70)	1 (11.10)
Missing	148 (5.60)	39 (6.00)	1 (11.10)

COVID-19-protected cancer pathways will be needed for months, if not years. Although questions remain about the wider consequences of a “semi-lockdown” strategy on welfare.

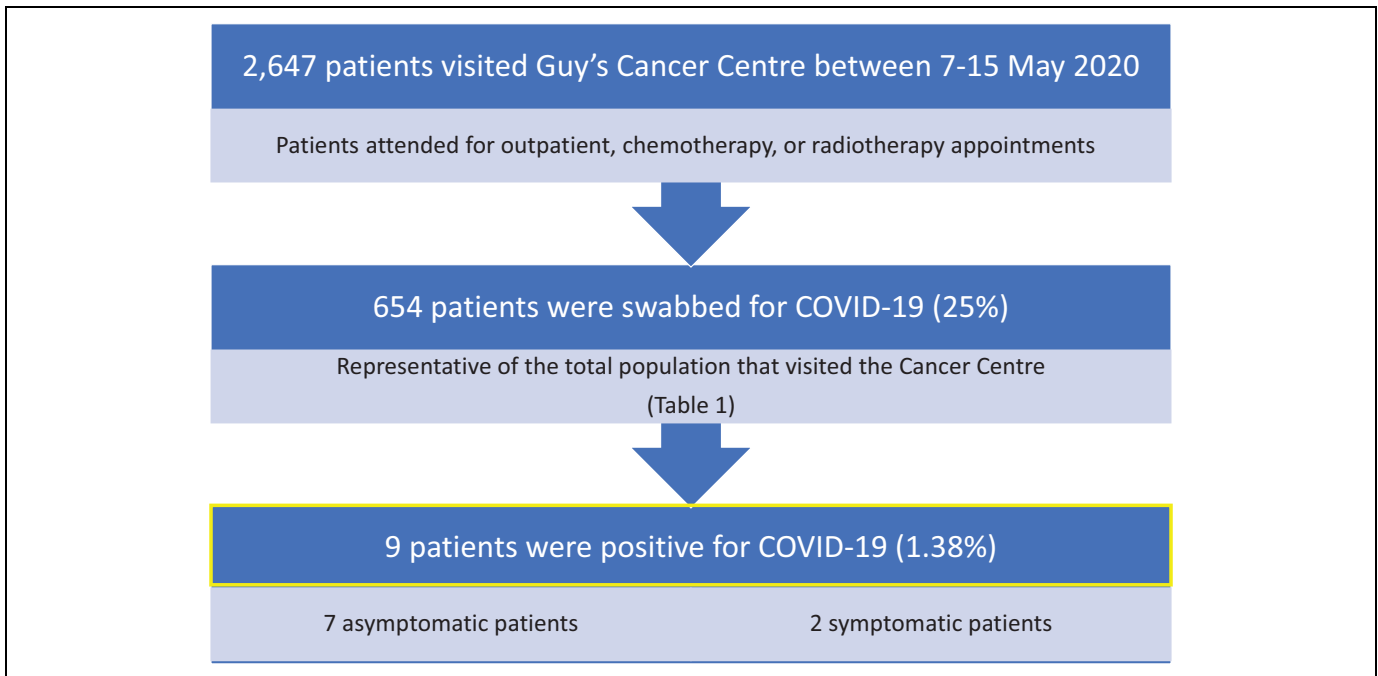
Recently, several case series have been published including a Consortium of 900 cancer patients with COVID-19 from >85 institutions.<sup>3</sup> Although these initial data start to inform us how to care for cancer patients during COVID-19, there is as yet no long-term follow-up. To start making informed decisions about cancer care, it is crucial to understand the scale of COVID-19 infection in cancer patients. Therefore, we introduced swab testing for patients visiting Guy's Cancer Centre.

Our Centre in South-East London treats approximately 8,800 patients annually (including 4,500 new diagnoses) and is one of the largest Comprehensive Cancer Centers in the UK at the epicenter of the UK COVID-19 epidemic. The first COVID-19 positive cancer patient was reported on 29 February 2020. Until 30 April 2020, a COVID-19 swab was ordered for cancer patients with symptoms necessitating hospitalization or if they were scheduled to undergo a cancer-related treatment. From 1 May 2020, COVID-19 testing was introduced as standard of care, with about 25% of patients being swabbed daily depending upon staff and testing kit availability. An analysis of the first 156 COVID-19 positive cancer patients (29th February until 12th May 2020) at our Centre has been published

elsewhere and focuses specifically on the cancer patient characteristics indicative of COVID-19 severity and death.<sup>4</sup>

Here, we analyzed data from 7-15 May 2020 (i.e. 6 consecutive work days) for COVID-19 test results in all cancer patients at our Centre. All data was collected and analyzed as part of Guy's Cancer Cohort (Ethics Reference number: 18/NW/0297).<sup>5</sup> 2,647 patients attended for outpatient, chemotherapy, or radiotherapy appointments from across South East London (and England) (Figure 1). Of these, 654 were swabbed for COVID-19 (25%). Over 57% of patients filled out a symptom assessment form which 97% were asymptomatic. Based on their demographics and tumor characteristics, this sample can be considered to be representative of the total population (Table 1). Of the patients tested, 9 were positive for COVID-19 (1.38%) of which 7 were asymptomatic. Reassuringly, patients with multiple attendances for radiotherapy or anti-cancer treatment were not at higher risk of infection.

An awareness of the COVID-19 prevalence in asymptomatic cancer patients, while helpful, is only one aspect necessary to develop a successful cancer recovery strategy. It will be essential to understand and manage contamination of the physical environment, ensure ongoing availability and use of personal protective equipment plus viral antigen and antibody testing. Moreover, knowledge of COVID-19 status during



**Figure 1.** Overview of patients visiting Guy's Cancer Centre between 7-15 May 2020.

cancer treatment can allow clinicians to make tailored decisions about timing and type of therapy. All asymptomatic COVID-19 positive patients had a conversation with their treating clinician about impact on their care.

Based on data from the Office for National Statistics, between 28 April-10 May 2020 an average of 0.27% of the community population had COVID-19 (95%CI: 0.17-0.41). However, for those working in patient-facing healthcare or resident-facing social care roles, this was estimated at 1.33% (95%CI: 0.39-3.28).<sup>6</sup> Nevertheless, London has been the region hardest hit by COVID-19, so the rate of 1.38% among asymptomatic cancer patients, the majority of whom will have been shielding, is likely to be more representative of the local situation. A meta-analysis of prevalence studies in China recently reported a prevalence of COVID-19 of 2.59% (95% CI, 1.72% to 3.90%) in the cancer population.<sup>7</sup> This number is 1.9 times higher than ours, and may be a reflection of differences in lockdown strategies and timings of the pandemic. In addition, it needs to be noted that there may be variability in the accuracy of RT-PCR testing for COVID-19 as the sensitivity may vary by type of specimen.<sup>8</sup> However, this “snapshot” of prevalence is not enough for an evolving situation. To our knowledge most studies to date focus on the prevalence of cancer in the COVID-19 positive patients rather than the prevalence of COVID-19 in the cancer population.

Currently, in our Cancer Centre we have discontinued routine testing due to the very low prevalence of COVID-19 in asymptomatic cancer patients. We continue to screen patients closely for symptoms and have low threshold for PCR and antibody testing to ensure maintenance of a COVID-19 minimal Centre. We are closely monitoring the number of local

cases and would re-implement routine swabbing in the event of a surge in COVID-19 positive infections.

Cancer service providers will need to understand their local cancer population prevalence and keep this under regular review.<sup>9</sup> The absolute priority and need of the hour is that cancer patients have the confidence to attend hospitals and be reassured that they will be treated in a COVID-19 managed environment.

## Appendix A

### *Guy's and St Thomas NHS Foundation Trust—Oncology*

Danielle Crawley  
 Saoirse Dolly  
 Andrea D'Souza  
 Julien de Naurois  
 Deborah Enting  
 Sharmistha Ghosh  
 Simon Gomberg  
 Sheeba Irshad  
 Debra Josephs  
 May Lei  
 George Nintos  
 Sophie Papa  
 Fahreen Rahman  
 Anne Rigg  
 Paul Ross  
 Sylva Rushan  
 Debashis Sarker  
 Elinor Sawyer  
 Ailsa Sita-Lumsden

Daniel Smith  
James Spicer  
Angela Swampillai  
Kamarul Zaki

*Guy's and St Thomas NHS Foundation Trust—Hematology*

Katherine Bailey  
Richard Dillon  
Paul Fields  
Mary Gleeson  
Claire Harrison  
Shahram Kordasti  
Kavita Raj  
Matthew Streetley  
David Wrench

*King's College London—School of Cancer and Pharmaceutical Sciences*

Fidelma Cahill  
Anna Haire  
Charlotte Moss  
Beth Russell  
Richard Sullivan  
Mieke Van Hemelrijck  
Harriet Wylie

*University of Birmingham*  
Richard T. Bryan

**Authors' Note**

Data collection: BR, CM, ML, SG, SD, SP and Guy's Cancer Real World Evidence Programme. Study design: BR, CM, AR, SD, MVH. Data analysis: BR, CM, MVH, SD. Manuscript drafting: MVH, AR, SD. Final approval of manuscript: All authors and Guy's Cancer Real World Evidence Programme. Charlotte Moss, MSc, Saoirse Dolly, PhD, Beth Russell, PhD, Contributed equally as first authors. Mieke Van Hemelrijck, PhD, Anne Rigg, PhD, Contributed equally as senior authors. Guy's Cancer Real World Evidence Programme members presented in Appendix A. Data can be obtained by researchers via an application to the Access Committee of Guy's Cancer Cohort. An application form can be obtained via [cancerdata@gstt.nhs.uk](mailto:cancerdata@gstt.nhs.uk). Guy's Cancer Cohort, a research ethics committee approved research database (Reference number: 18/NW/0297; North West—Haydock Research Ethics Committee) of all routinely collected clinical data of cancer patients at Guy's and St Thomas' NHS Foundation Trust (GSTT), forms the basis of this observational study. Patients and public were involved in the design of Guy's Cancer Cohort. No written consent is required as ethical approval has been provided based on opt-out. Details can be found in Moss et al. *BMC Cancer* 2020.

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**ORCID iD**

Mieke Van Hemelrijck, PhD  <https://orcid.org/0000-0002-7317-0858>

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