# Evidence Search Service Results of your search request:

## “Research into projected impact on cancer services due to COVID-19”

**ID of request:** 25576; **Date of request:** 15th October, 2020; **Date of completion:** 20th October, 2020

If you would like to request any articles or any further help, please contact:  Adam Tocock at [adam.tocock@nhs.net](mailto:adam.tocock@nhs.net)

Please acknowledge this work in any resulting paper or presentation as: Evidence search: research into projected impact on cancer services due to covid. Adam Tocock. (20th October, 2020). LONDON, UK: Barts Health Knowledge and Library Services.

**Date range used** (5 years, 10 years): -   
**Limits used** (gender, article/study type, etc.): -   
**Search terms and notes**: full search strategy reported at the end of this document.

## Summary:

The most quoted predictions/projections stem from results #1 and #2, as featured on [BBC’s Panorama](https://www.bbc.co.uk/news/health-53300784); and also results #3 and #4 from the Lancet. Highlighting the differences in prediction models and the difficulties in accurately predicting future impact, results #5 and #20 partly explain the wild variations in these forecasts.

## Results:

1. **Deaths in people with cancer could rise by at least 20%**  
   UCL Partners, 2020.

Researchers from DATA-CAN: The Health Data Research Hub for Cancer, hosted by UCLPartners, alongside UCL have published a study which reveals the COVID-19 emergency in England could result in at least 20% more deaths over the next 12 months in people who have been newly diagnosed with cancer.

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1. **Estimating excess mortality in people with cancer and multimorbidity in the COVID-19 emergency**

2020;:xx.

**[This article is the pre-print report of the research covered above]**

Background: Cancer and multiple non-cancer conditions are considered by the Centers for Disease Control and Prevention (CDC) as high risk conditions in the COVID-19 emergency. Professional societies have recommended changes in cancer service provision to minimize COVID-19 risks to cancer patients and health care workers. However, we do not know the extent to which cancer patients, in whom multi-morbidity is common, may be at higher overall risk of mortality as a net result of multiple factors including COVID-19 infection, changes in health services, and socioeconomic factors. Methods: We report multi-center, weekly cancer diagnostic referrals and chemotherapy treatments until April 2020 in England and Northern Ireland. We analyzed population-based health records from 3,862,012 adults in England to estimate 1-year mortality in 24 cancer sites and 15 non-cancer comorbidity clusters (40 conditions) recognized by CDC as high-risk. We estimated overall (direct and indirect) effects of COVID-19 emergency on mortality under different Relative Impact of the Emergency (RIE) and different Proportions of the population Affected by the Emergency (PAE). We applied the same model to the US, using Surveillance, Epidemiology, and End Results (SEER) program data. Results: Weekly data until April 2020 demonstrate significant falls in admissions for chemotherapy (45-66% reduction) and urgent referrals for early cancer diagnosis (70-89% reduction), compared to pre-emergency levels. Under conservative assumptions of the emergency affecting only people with newly diagnosed cancer (incident cases) at COVID-19 PAE of 40%, and an RIE of 1.5, the model estimated 6,270 excess deaths at 1 year in England and 33,890 excess deaths in the US. In England, the proportion of patients with incident cancer with ≥1 comorbidity was 65.2%. The number of comorbidities was strongly associated with cancer mortality risk. Across a range of model assumptions, and across incident and prevalent cancer cases, 78% of excess deaths occur in cancer patients with ≥1 comorbidity. Conclusion: We provide the first estimates of potential excess mortality among people with cancer and multimorbidity due to the COVID-19 emergency and demonstrate dramatic changes in cancer services. To better inform prioritization of cancer care and guide policy change, there is an urgent need for weekly data on cause-specific excess mortality, cancer diagnosis and treatment provision and better intelligence on the use of effective treatments for comorbidities.

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1. **Effect of delays in the 2-week-wait cancer referral pathway during the COVID-19 pandemic on cancer survival in the UK: a modelling study.**  
   Sud Amit The Lancet. Oncology 2020;21(8):1035-1044.

BACKGROUND: During the COVID-19 lockdown, referrals via the 2-week-wait urgent pathway for suspected cancer in England, UK, are reported to have decreased by up to 84%. We aimed to examine the impact of different scenarios of lockdown-accumulated backlog in cancer referrals on cancer survival, and the impact on survival per referred patient due to delayed referral versus risk of death from nosocomial infection with severe acute respiratory syndrome coronavirus 2.METHODSIn this modelling study, we used age-stratified and stage-stratified 10-year cancer survival estimates for patients in England, UK, for 20 common tumour types diagnosed in 2008-17 at age 30 years and older from Public Health England. We also used data for cancer diagnoses made via the 2-week-wait referral pathway in 2013-16 from the Cancer Waiting Times system from NHS Digital. We applied per-day hazard ratios (HRs) for cancer progression that we generated from observational studies of delay to treatment. We quantified the annual numbers of cancers at stage I-III diagnosed via the 2-week-wait pathway using 2-week-wait age-specific and stage-specific breakdowns. From these numbers, we estimated the aggregate number of lives and life-years lost in England for per-patient delays of 1-6 months in presentation, diagnosis, or cancer treatment, or a combination of these. We assessed three scenarios of a 3-month period of lockdown during which 25%, 50%, and 75% of the normal monthly volumes of symptomatic patients delayed their presentation until after lockdown. Using referral-to-diagnosis conversion rates and COVID-19 case-fatality rates, we also estimated the survival increment per patient referred. FINDINGS Across England in 2013-16, an average of 6281 patients with stage I-III cancer were diagnosed via the 2-week-wait pathway per month, of whom 1691 (27%) would be predicted to die within 10 years from their disease. Delays in presentation via the 2-week-wait pathway over a 3-month lockdown period (with an average presentational delay of 2 months per patient) would result in 181 additional lives and 3316 life-years lost as a result of a backlog of referrals of 25%, 361 additional lives and 6632 life-years lost for a 50% backlog of referrals, and 542 additional lives and 9948 life-years lost for a 75% backlog in referrals. Compared with all diagnostics for the backlog being done in month 1 after lockdown, additional capacity across months 1-3 would result in 90 additional lives and 1662 live-years lost due to diagnostic delays for the 25% backlog scenario, 183 additional lives and 3362 life-years lost under the 50% backlog scenario, and 276 additional lives and 5075 life-years lost under the 75% backlog scenario. However, a delay in additional diagnostic capacity with provision spread across months 3-8 after lockdown would result in 401 additional lives and 7332 life-years lost due to diagnostic delays under the 25% backlog scenario, 811 additional lives and 14 873 life-years lost under the 50% backlog scenario, and 1231 additional lives and 22 635 life-years lost under the 75% backlog scenario. A 2-month delay in 2-week-wait investigatory referrals results in an estimated loss of between 0·0 and 0·7 life-years per referred patient, depending on age and tumour type. INTERPRETATION Prompt provision of additional capacity to address the backlog of diagnostics will minimise deaths as a result of diagnostic delays that could add to those predicted due to expected presentational delays. Prioritisation of patient groups for whom delay would result in most life-years lost warrants consideration as an option for mitigating the aggregate burden of mortality in patients with cancer. FUNDING: None.

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1. **The impact of the COVID-19 pandemic on cancer deaths due to delays in diagnosis in England, UK: a national, population-based, modelling study.**  
   Maringe Camille The Lancet. Oncology 2020;21(8):1023-1034.

BACKGROUND: Since a national lockdown was introduced across the UK in March, 2020, in response to the COVID-19 pandemic, cancer screening has been suspended, routine diagnostic work deferred, and only urgent symptomatic cases prioritised for diagnostic intervention. In this study, we estimated the impact of delays in diagnosis on cancer survival outcomes in four major tumour types. METHODS: In this national population-based modelling study, we used linked English National Health Service (NHS) cancer registration and hospital administrative datasets for patients aged 15-84 years, diagnosed with breast, colorectal, and oesophageal cancer between Jan 1, 2010, and Dec 31, 2010, with follow-up data until Dec 31, 2014, and diagnosed with lung cancer between Jan 1, 2012, and Dec 31, 2012, with follow-up data until Dec 31, 2015. We use a routes-to-diagnosis framework to estimate the impact of diagnostic delays over a 12-month period from the commencement of physical distancing measures, on March 16, 2020, up to 1, 3, and 5 years after diagnosis. To model the subsequent impact of diagnostic delays on survival, we reallocated patients who were on screening and routine referral pathways to urgent and emergency pathways that are associated with more advanced stage of disease at diagnosis. We considered three reallocation scenarios representing the best to worst case scenarios and reflect actual changes in the diagnostic pathway being seen in the NHS, as of March 16, 2020, and estimated the impact on net survival at 1, 3, and 5 years after diagnosis to calculate the additional deaths that can be attributed to cancer, and the total years of life lost (YLLs) compared with pre-pandemic data. FINDINGS: We collected data for 32 583 patients with breast cancer, 24 975 with colorectal cancer, 6744 with oesophageal cancer, and 29 305 with lung cancer. Across the three different scenarios, compared with pre-pandemic figures, we estimate a 7·9-9·6% increase in the number of deaths due to breast cancer up to year 5 after diagnosis, corresponding to between 281 (95% CI 266-295) and 344 (329-358) additional deaths. For colorectal cancer, we estimate 1445 (1392-1591) to 1563 (1534-1592) additional deaths, a 15·3-16·6% increase; for lung cancer, 1235 (1220-1254) to 1372 (1343-1401) additional deaths, a 4·8-5·3% increase; and for oesophageal cancer, 330 (324-335) to 342 (336-348) additional deaths, 5·8-6·0% increase up to 5 years after diagnosis. For these four tumour types, these data correspond with 3291-3621 additional deaths across the scenarios within 5 years. The total additional YLLs across these cancers is estimated to be 59 204-63 229 years. INTERPRETATION: Substantial increases in the number of avoidable cancer deaths in England are to be expected as a result of diagnostic delays due to the COVID-19 pandemic in the UK. Urgent policy interventions are necessary, particularly the need to manage the backlog within routine diagnostic services to mitigate the expected impact of the COVID-19 pandemic on patients with cancer. FUNDING: UK Research and Innovation Economic and Social Research Council.

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1. **Cancer diagnostic delay in the COVID-19 era: what happens next?**  
   Hamilton William The Lancet. Oncology 2020;21(8):1000-1002.

**This article comments on result #3 above, and #4 above.**

“… So, how large is the loss of life from cancer resulting from the COVID-19 pandemic? We have two very different figures from these modelling studies, reflecting their different methods, cancer sites, and assumptions. Both studies omit changes occurring before entry into secondary care and changed treatment regimens for those already diagnosed with cancer, which will further affect the total number of deaths. Perhaps a precise figure is not needed—the loss of life is big, whatever the method used. What is most important is the recovery plan. Every major NHS cancer diagnostic pathway has been adapted during the COVID-19 pandemic, maintaining the principle of selection for definitive investigation using the likelihood of cancer being present. As lockdown is eased, much triage will continue to be by telephone or video consultations, which might miss subtle diagnostic aspects that would be gleaned in a face-to-face consultation. Very few endoscopies were done between mid-March and early July, 2020.[8](https://www.thelancet.com/journals/lanonc/article/PIIS1470-2045(20)30391-0/fulltext#bib8) Partial reopening of endoscopy facilities began in July, 2020, albeit with capacity usually below 50% of that before the COVID-19 era, and with colonoscopies prioritised for those with a high faecal immunochemical test result and those with positive screening tests.[8](https://www.thelancet.com/journals/lanonc/article/PIIS1470-2045(20)30391-0/fulltext#bib8) As a short term expedient, alternative testing by imaging, such as CT colonography, or less modern testing methods such as barium swallow, might be offered instead of endoscopy. Imaging departments might not be able to meet increased demand: many were working at full capacity before the COVID-19 pandemic, and the need to keep patients separate and to clean equipment has reduced their efficiency. There are encouraging reports[9](https://www.thelancet.com/journals/lanonc/article/PIIS1470-2045(20)30391-0/fulltext#bib9) that the Nightingale hospitals—which were rapidly built to offer care for patients with COVID-19, but are now less needed—will be reconfigured into cancer diagnostic hubs. The UK has had a long-term shortage of diagnostic capacity, although this shortage is not simply of equipment, but also of personnel, which is not so easily improved.[1](https://www.thelancet.com/journals/lanonc/article/PIIS1470-2045(20)30391-0/fulltext#bib1)

The authors of both Articles expect there will soon be a surge in patients referred via the 2-week-wait pathway who will require investigation, so that in the third quarter of 2020, not only will diagnostic services be at reduced capacity, but they will be at above-normal demand. This prediction might not be correct. Patients who have an undiagnosed cancer will still need to be tested; however, for most 2-week-wait pathways the number of referred patients without cancer greatly exceeds those with cancer. In February, 2020, the conversion rate across all 2-week-wait pathways was 7·1%, so 13 patients without cancer were tested for each one patient with cancer.[10](https://www.thelancet.com/journals/lanonc/article/PIIS1470-2045(20)30391-0/fulltext#bib10) What will happen to these 13 patients? Some will never report their symptoms, and others will have recovered from their symptoms while waiting for testing. Others will be deemed sufficiently low risk after primary or secondary care assessment so they can avoid investigation, along with its small risk of harm. Only a few of the 13 patients without cancer need to avoid investigation and the feared surge will instead be a steady increase in demand for investigation, perhaps never reaching levels before the COVID-19 pandemic. Even so, patients whose symptoms are truly indicative of cancer have been disadvantaged, and some thousands will die as a result. One long-term legacy of the COVID-19 pandemic in the UK might be increased capacity in diagnostic services, but the cost has been considerable.”

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1. **A microsimulation model to assess the impact of SARS-CoV-2 on cancer outcomes, healthcare organization and economic burden**  
   Van Mol P. Annals of Oncology 2020;31:No page numbers.

Background: SARS-CoV-2 pandemic has deeply modified healthcare seeking and services in Europe since February 2020 with delays in treatment delivery and changes in the standards of care. The organization of cancer centers (CC) has been transformed to minimize virus exposure in cancer patients (pts). Real-time assessment of the impact on cancer outcomes can optimize decision-making for future epidemic episodes. <br/>Method(s): A discrete-event simulation (DES) model was developed to model individual pt pathways during the pandemic in a context of constrained medical resources. Cancer pt care is modeled based on pandemic-adapted guidelines for medical practice. Pt flow is derived from medico-administrative databases using time series methods to estimate the proportion of punctual / late visits and associated delay and to extrapolate future flows. Finally, the impact of modified care on survival is estimated using literature data. <br/>Result(s): From March to December 2020, based on data from Gustave Roussy CC in France (n= 4877 included pts), estimated overall treatment delay is &lt;= 7 days in 86,6% of pts and 5,2% of pts have a delay higher than 2 months. More than 94% of this duration is delay in pt request for care, causing 99 pts to suffer a major prognosis change upon arrival. Delayed pt flows result in a highly time-variable use of medical resources, with important queues forecast for surgery care and chemotherapy. The handling of such queues will require intensified healthcare professionals effort. Projections show that, in the best-case scenario, ie without a 2nd pandemic wave, treatment delays and modifications will result in around 49 additional 5-year cancer-specific deaths (+ 2,25% of 5-year deaths), mainly in liver, sarcomas and head and neck cancer pts. <br/>Conclusion(s): In a resource-constrained context, optimization of the benefit-risk ratio between COVID-19 and cancer care is key. Simulations of individual projections from actual hospital data, show a 2.25% increase of the 5-year risk of death and that pandemic-related cancer burden is mainly due to patient-induced lateness in seeking care. Defining optimal strategies in terms of screening, monitoring and prioritization for care could minimize the impact of future pandemic episodes. Legal entity responsible for the study: The authors.

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1. **A rapid review of evidence and recommendations from the SIOPE radiation oncology working group to help mitigate for reduced paediatric radiotherapy capacity during the COVID-19 pandemic or other crises**  
   Janssens G.O. Radiotherapy and Oncology 2020;148:216-222.

Objective: To derive evidence-based recommendations for the optimal utilisation of resources during unexpected shortage of radiotherapy capacity. Methods and materials: We have undertaken a rapid review of published literature on the role of radiotherapy in the multimodality treatment of paediatric cancers governing the European practise of paediatric radiotherapy. The derived data has been discussed with expert paediatric radiation oncologists to derive a hierarchy of recommendations. <br/>Result(s): The general recommendations to mitigate the potential detriment of an unexpected shortage of radiotherapy facilities include: (1) maintain current standards of care as long as possible (2) refer to another specialist paediatric radiotherapy department with similar level of expertise (3) prioritise use of existing radiotherapy resources to treat patients with tumours where radiotherapy has the most effect on clinical outcome (4) use chemotherapy to defer the start of radiotherapy where timing of radiotherapy is not expected to be detrimental (5) active surveillance for low-grade tumours if appropriate and (6) consider iso-effective hypofractionated radiotherapy regimens only for selected patients with predicted poor prognosis. The effectiveness of radiotherapy and recommendations for prioritisation of its use for common and challenging paediatric tumours are discussed. <br/>Conclusion(s): This review provides evidence-based treatment recommendations during unexpected shortage of paediatric radiotherapy facilities. It has wider applications for the optimal utilisation of facilities, to improve clinical outcome in low- and middle-income countries, where limited resources continue to be a challenge.<br/>Copyright &#xa9; 2020 Elsevier B.V.

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1. **Cancer diagnostic rates during the 2020 'lockdown', due to COVID-19 pandemic, compared with the 2018-2019: an audit study from cellular pathology.**  
   De Vincentiis Ludovica Journal of clinical pathology 2020;:No page numbers.

AIMSWe performed an audit to evaluate the impact of the COVID-19 pandemic-related delay in the diagnosis of major cancers at a Pathology Unit of a Secondary Care Hospital Network in Italy.METHODSA comparison was made among the number of first cellular pathological diagnoses of malignancy made from the 11th to the 20th week of the years 2018-2020.RESULTSCancer diagnoses fell in 2020 by 39% compared with the average number recorded in 2018 and 2019. Prostate cancer (75%) bladder cancer (66%) and colorectal cancer (CRC; 62%) had the greatest decrease. CRC was identified as carrying a potentially important diagnostic delay.CONCLUSIONSFor CRC corrective procedures (continuing mass screening tests; patient triage by family physicians; diagnostic procedures alternative to colonoscopy; predictive evaluation on biopsy samples) were advised. Our simple audit model is widely applicable to avoid pandemic-related delay in clinical diagnosis of cancer.

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1. **COVID-19 impact and predictive factors for mortality in cancer patients**  
   Sanz Garcia E. Annals of Oncology 2020;31:No page numbers.

Background: SARS-CoV-2 is a novel coronavirus that has been responsible for the largest pandemic in the last century: COVID-19. This disease has widely affected Spain with a high lethality in ancient patients (pts) and with comorbidities. Oncological pts were not an exception. <br/>Method(s): We evaluated the association between COVID-19 mortality and clinical/laboratory/radiological parameters in cancer pts from March to April 2020 at our institution. Past medical history and COVID-19-related parameters (symptoms, laboratory/x-ray findings and treatments) were retrospectively collected. Univariate analysis (UA) has been done using Fisher exact and U-Mann-Withney test for qualitative and quantitative variables, respectively. Multivariant analysis (MA) has been done using logistic regression. <br/>Result(s): Forty three hospitalized pts were diagnosed with COVID-19; 30 pts (69.8%) were symptomatic on admission and 13 pts (30.2%) were hospital-acquired cases. Median age was 68.8 +/- 7.8 years. Most part of the pts had gastrointestinal (GI) (13; 30.2%), thoracic (Tx) (12; 27.9%) and breast (6; 14%) cancer. A higher prevalence of Tx tumours compared to our new pts prevalence is observed (9%). Fever was the most common symptom (27; 62.8%) and bilateral pneumonia was observed in 24 pts (55.8%). SARS-Co-V-2 PCR was positive in 34 pts (79.1%). Hydroxychloroquine was administered in 35 pts (81.4%), steroids and antiretrovirals in 19 pts (44.1%) and tocilizumab in 12 pts (27.9%). Mortality rate due to COVID-19 was 30.23% (13 pts) and 8 pts could resume oncological treatment. Hypertension (HTA) and previous daily steroids given during last month before admission; as well as performance status, fever, Curb-65, SOFA score and D-Dimer (DD) at admission were associated with COVID-19 mortality in UA. Similarly, high flow oxygen requirements during hospitalization and DD at 72 hours are predictors of mortality. HTA [OR: 8.3 (1-5-70.1)], steroids [OR: 10.7 (1.3 - 143.8)] and fever [OR: 0.09 (0.01 - 0.55)]were also associated in MA. <br/>Conclusion(s): COVID-19 showed a relative higher incidence in pts with Tx and GI tumours. Some clinical and laboratory parameters were found to be predictive factors for mortality as previously reported in non-cancer pts. Further investigations with larger number of pts are needed. Legal entity responsible for the study: HM Hospitales. <br/>Funding(s): Has not received any funding. Disclosure: All authors have declared no conflicts of interest.<br/>Copyright &#xa9; 2020

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1. **CRC COVID: Colorectal cancer services during COVID-19 pandemic. Study protocol for service evaluation.**  
   Courtney Alona International journal of surgery protocols 2020;23:15-19.

IntroductionCOVID-19 has had an impact on the provision of colorectal cancer care. The aim of the CRC COVID study is to describe the changes in colorectal cancer services in the UK and USA in response to the pandemic and to understand the long-term impact.Methods and analysisThis study comprises 4 phases. Phase 1 is a survey of colorectal units that aims to evaluate adherences and deviations from the best practice guidelines during the COVID-19 pandemic. Phase 2 is a monthly prospective data collection of service provision that aims to determine the impact of the service modifications on the long-term cancer specific outcomes compared to the national standards. Phase 3 aims to predict costs attributable to the modifications of the CRC services and additional resources required to treat patients whose treatment has been affected by the pandemic. Phase 4 aims to compare the impact of COVID-19 on the NHS and USA model of healthcare in terms of service provision and cost, and to propose a standardised model of delivering colorectal cancer services for future outbreaks.Ethics and disseminationThis study is a service evaluation and does not require HRA Approval or Ethical Approval in the UK. Local service evaluation registration is required for each participating centre. In the USA, Ethical Approval was granted by the Research and Development Committee. The results of this study will be disseminated to stakeholders, submitted for peer review publications, conference presentations and circulated via social media.Registration detailsNil.

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1. **Elective surgery cancellations due to the COVID-19 pandemic: global predictive modelling to inform surgical recovery plans.**  
   COVIDSurg Collaborative The British journal of surgery 2020;:No page numbers.

BACKGROUNDThe COVID-19 pandemic has disrupted routine hospital services globally. This study estimated the total number of adult elective operations that would be cancelled worldwide during the 12 weeks of peak disruption due to COVID-19.METHODSA global expert response study was conducted to elicit projections for the proportion of elective surgery that would be cancelled or postponed during the 12 weeks of peak disruption. A Bayesian β-regression model was used to estimate 12-week cancellation rates for 190 countries. Elective surgical case-mix data, stratified by specialty and indication (surgery for cancer versus benign disease), were determined. This case mix was applied to country-level surgical volumes. The 12-week cancellation rates were then applied to these figures to calculate the total number of cancelled operations.RESULTSThe best estimate was that 28 404 603 operations would be cancelled or postponed during the peak 12 weeks of disruption due to COVID-19 (2 367 050 operations per week). Most would be operations for benign disease (90·2 per cent, 25 638 922 of 28 404 603). The overall 12-week cancellation rate would be 72·3 per cent. Globally, 81·7 per cent of operations for benign conditions (25 638 922 of 31 378 062), 37·7 per cent of cancer operations (2 324 070 of 6 162 311) and 25·4 per cent of elective caesarean sections (441 611 of 1 735 483) would be cancelled or postponed. If countries increased their normal surgical volume by 20 per cent after the pandemic, it would take a median of 45 weeks to clear the backlog of operations resulting from COVID-19 disruption.CONCLUSIONA very large number of operations will be cancelled or postponed owing to disruption caused by COVID-19. Governments should mitigate against this major burden on patients by developing recovery plans and implementing strategies to restore surgical activity safely.

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1. **Estimation of European cancer burden for the year 2020**  
   Dyba T.A. Annals of Oncology 2020;31:No page numbers.

Background: Up-to-date cancer burden indicators provide an important source of information for supporting political decision making, as well as for epidemiological research and the general public. Nevertheless, observed cancer incidence and mortality suffer from an inherent registration delay in the data production workflow. To overcome this, the European Commission's Joint Research Centre in collaboration with the WHO's International Agency for Research on Cancer have computed estimates of cancer incidence and mortality, for the year 2020 and for European countries, in the framework of the European Cancer Information System (ECIS). <br/>Method(s): Predicted values for the year 2020 are based on the incidence data of more than 150 European population-based cancer registries included in ECIS, and on mortality data provided by WHO. Ad-hoc statistical models were developed on the basis of the most recent time trends of observed data to estimate cancer incidence and mortality rates in each EU country for the year 2020. Estimated rates were then applied to the projected population figures for 2020 from EUROSTAT in order to calculate the predicted number of new cases and deaths for 2020 in 40 European countries. <br/>Result(s): The number of new cancer cases and deaths in 2020 has been estimated per country by sex and age group, for 25 major cancer sites. The results are included and disseminated through the European Cancer Information System (ECIS) web application. <br/>Conclusion(s): The release of up-to-date cancer incidence and mortality estimates is of great importance to support EU evidence-based cancer policies. The homogeneity of the estimation methods applied throughout Europe guarantees the comparability of the estimated values between countries. Reliable and comparable estimates highlight differences between countries in cancer incidence and mortality, thus facilitating the identification of possible intervention areas. The applied methodology couldn't take into account the possible impact of the COVID-19 pandemic on the projected rates. A future exercise to evaluate the discrepancy between projected and observed rates will allow quantification of this impact. Legal entity responsible for the study: The authors. <br/>Funding(s): European Commission. Disclosure: All authors have declared no conflicts of interest.<br/>Copyright &#xa9; 2020

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1. **Impact of COVID-19 Pandemic on Colorectal Cancer Screening Program**  
   D'Ovidio V. Clinical Colorectal Cancer 2020;:No page numbers.

Introduction: One of the main clusters of coronavirus disease-2019 (COVID-19) has been identified in Italy. Following European and local guidelines, Italian endoscopy units modulated their activity. We aimed at analyzing the need and safety to continue selective colorectal cancer screening (CRCS) colonoscopies during the COVID-19 pandemic. <br/>Patients and Methods: We carried out a retrospective controlled cohort study in our "COVID-free" hospital to compare data of the CRCS colonoscopies of the lockdown period (March 9 to May 4, 2020) with those of the same period of 2019 (control group). A pre/post endoscopic sanitary surveillance for COVID-19 infection was organized for patients and sanitary staff. <br/>Result(s): In the lockdown group, 60 of 137 invited patients underwent endoscopy, whereas in the control group, 238 CRCS colonoscopies (3.9-fold) were performed. In the lower number of examinations during the lockdown, we found more colorectal cancers (5 cases; 8% vs. 3 cases; 1%; P = .002). The "high-risk" adenomas detection rate was also significantly higher in the "lockdown group" than in controls (47% vs. 25%; P = .001). A multiple regression analysis selected relevant symptoms (hazard ratio [HR], 3.1), familiarity (HR, 1.99), and lockdown period (HR, 2.2) as independent predictors of high-risk lesions (high-risk adenomas and colorectal cancer). No COVID-19 infections were reported among staff and patients. <br/>Conclusion(s): The overall adherence to CRCS decreased during the pandemic, but the continuation of CRCS colonoscopies was efficacious and safe.The COVID-19 pandemic has influenced several aspects of daily activity in hospitals. We have confirmed that our colorectal cancer screening program has proved to be worthwhile and safe also during the lockdown period.<br/>Copyright &#xa9; 2020 Elsevier Inc.

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1. **Insights from a global snapshot of the change in elective colorectal practice due to the COVID-19 pandemic.**  
   Mason Sam E. PloS one 2020;15(10):e0240397.

BACKGROUNDThere is a need to understand the impact of COVID-19 on colorectal cancer care globally and determine drivers of variation.OBJECTIVETo evaluate COVID-19 impact on colorectal cancer services globally and identify predictors for behaviour change.DESIGNAn online survey of colorectal cancer service change globally in May and June 2020.PARTICIPANTSAttending or consultant surgeons involved in the care of patients with colorectal cancer.MAIN OUTCOME MEASURESChanges in the delivery of diagnostics (diagnostic endoscopy), imaging for staging, therapeutics and surgical technique in the management of colorectal cancer. Predictors of change included increased hospital bed stress, critical care bed stress, mortality and world region.RESULTS191 responses were included from surgeons in 159 centers across 46 countries, demonstrating widespread service reduction with global variation. Diagnostic endoscopy was reduced in 93% of responses, even with low hospital stress and mortality; whilst rising critical care bed stress triggered complete cessation (p = 0.02). Availability of CT and MRI fell by 40-41%, with MRI significantly reduced with high hospital stress. Neoadjuvant therapy use in rectal cancer changed in 48% of responses, where centers which had ceased surgery increased its use (62 vs 30%, p = 0.04) as did those with extended delays to surgery (p<0.001). High hospital and critical care bed stresses were associated with surgeons forming more stomas (p<0.04), using more experienced operators (p<0.003) and decreased laparoscopy use (critical care bed stress only, p<0.001). Patients were also more actively prioritized for resection, with increased importance of co-morbidities and ICU need.CONCLUSIONSThe COVID-19 pandemic was associated with severe restrictions in the availability of colorectal cancer services on a global scale, with significant variation in behaviours which cannot be fully accounted for by hospital burden or mortality.

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1. **Management of Patients With Hematologic Malignancies During the COVID-19 Pandemic: Practical Considerations and Lessons to Be Learned.**  
   Isidori Alessandro Frontiers in oncology 2020;10:1439.

The COVID-19 pandemic has created unprecedented hurdles to the delivery of care to patients with cancer. Patients with hematologic malignancies appear to have a greater risk of SARS-CoV-2 infection and severe disease due to myelosuppression and lymphopenia. The first challenge, therefore, is how to continue to deliver effective, curative therapy to vulnerable patients and at the same time avoid exposing them, and their health care teams (HCT), to SARS-CoV-2. An additional challenge is the timely completion of the diagnostic and staging studies required to formulate appropriate treatment plans. Deferred procedures and avoidance of multiple trips to the surgical, diagnostic, and laboratory suites require same day consolidation of all procedures. With laboratory medicine absorbed by the need to deploy large scale COVID-testing, the availability of routine molecular tests is affected. Finally, we are increasingly faced with the challenge of making complex treatment decisions in SARS-CoV-2 positive patients with aggressive but potentially curable blood cancers. When to treat, how to treat, when to wait, how long to wait, how to predict and manage toxicities, and how to avoid compromising cure rates remains unknown. We present an outline of the scientific, medical, and operational challenges posed by the COVID-19 pandemic at selected American and European institutions and offer our current view of the key elements of a response. While the peak of the pandemic may be past us, in the absence of a vaccine risks remain, and our alertness and response to future challenges need to be refined and consolidated.

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1. **Optimal cancer care in the context of COVID-19 in Australia**  
   Milch V. Annals of Oncology 2020;31:No page numbers.

Background: Cancer Australia (CA), Australia's national cancer control agency, aims to reduce the impact of cancer, address disparities and improve cancer outcomes. The approach to cancer care needs to be tailored to different phases of the pandemic and the multiple competing priorities driving healthcare. These include the likely increased risks to cancer patients of acquiring COVID-19 and of serious illness or mortality, the limitations of resources, the possibility of the healthcare system being overwhelmed and the risks of delaying cancer diagnosis and treatment. CA is in unique position to undertake this project. <br/>Method(s): Australia's Optimal Care Pathways (OCPs) for people with cancer guide the delivery of consistent, safe, high-quality and evidence-based care for people with cancer. Using published data, guidelines and recommendations, CA has developed a conceptual framework for system-wide approaches to cancer management in line with the OCPs mapped to different stages and potential severities of the COVID-19 pandemic. <br/>Result(s): A conceptual framework for optimal management of cancer during the COVID-19 pandemic has been developed, taking the journey from prevention and early detection through to survivorship and end-of-life care. Opportunities for evidence-based, risk-based and consensus-based decision-making about modifications to management which aim to both improve patient outcomes and minimise their exposure to, and risk of harm from, COVID-19 are mapped according to 3 acute phases (the beginning of the pandemic, approaching hospital capacity, and hospital capacity exceeded) and 2 recovery phases (early and late) of the pandemic. Second and subsequent waves of infection can also be accommodated. Some modifications to care will be of permanent value (and the pandemic has therefore driven improvement). Telemedicine is one example. <br/>Conclusion(s): This conceptual framework provides guidance on optimal management of cancer during the COVID-19 pandemic, is intended as a useful resource, and while designed with the Australian healthcare system and this COVID-19 pandemic in mind, is readily transferrable to any jurisdiction and for any pandemic. Lessons need to be learned for the future so that advances are not lost. Legal entity responsible for the study: Cancer Australia. <br/>Funding(s): Has not received any funding. Disclosure: All authors have declared no conflicts of interest.<br/>Copyright &#xa9; 2020

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1. **Tackling the elective case backlog generated by Covid-19: the scale of the problem and solutions.**  
   Macdonald Nathanael Journal of public health (Oxford, England) 2020;:No page numbers.

BACKGROUNDIn April 2020, Covid-19 brought NHS elective procedures to a halt. The aim of this paper is to produce accurate forecasts on the building backlog, highlight the state of waiting lists currently and propose solutions required to prevent a public health crisis.METHODUsing data published by NHS digital and NHS England on previous years, we have analysed and used this to produce estimates of cancellations and missed cases. We also analyse government data on waiting lists and show compliance or lack of with these.RESULTSWe show that compliance with waiting list times pre pandemic was falling year on year (83.2% in 2020 down from 87% in 2019). Every month that passes we estimate that 400 000 cases are not being performed. This may include urgent cancer care work in some trusts.CONCLUSIONSWaiting lists have been governed by strict rules since 2004. Given falling compliance with 18-week intention to treat we believe the scale of the backlog combined with NHS capacity diminished due to Covid-19 precautions is a public health crisis waiting to occur. We identify difficulties in resuming elective work and suggest strategies that could be employed to avoid a public health crisis.

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1. **The impact of COVID-19 on oncology professionals: Initial results of the ESMO resilience task force survey collaboration**  
   Banerjee S. Annals of Oncology 2020;31:No page numbers.

Background: The impact of the COVID-19 (CV-19) pandemic on wellbeing has the potential for serious negative consequences on work, home life and patient care. The ESMO Resilience Task Force collaboration set out to investigate wellbeing in oncology over time since CV-19. <br/>Method(s): 2 online surveys were conducted (survey I April/May; survey II July/August 2020). Statistical analyses were used to examine group differences, associations and to explore predictors of key outcomes: 1) wellbeing/distress (Wellbeing Index (WBI-9)), 2) burnout (1 item); and 3) CV-19 job performance (2 item CJP; standard of care and job delivery compared to pre-CV 19). <br/>Result(s): Survey I had 1520 participants from 101 countries. Responses indicate that CV-19 is impacting the oncology workforce resulting in a number of changes to work and personal lives. 25% were at risk of distress (poor wellbeing, WBI &gt;=4); 38% reported feeling burnout and 66% were not able to perform their job compared to pre-CV-19. Higher CJP was significantly associated with better wellbeing and not feeling burnout (p&lt;0.01). Differences were seen in wellbeing and CJP between countries (p&lt;0.001) and related to CV-19 country mortality rate (p&lt;0.05). The main predictors of wellbeing, burnout and CJP were resilience and changes to work hours. Others frequently identified were coping strategies, ethnicity, concern about training/career, worried about current wellbeing, and working conditions. In Survey II, results from 942 participants are undergoing analysis. Overall, comparisons between surveys show overall wellbeing and burnout rates have worsened overtime but CJP has improved. Among 272 participants who completed both surveys, WBI scores &gt;=4 (indicating higher risk of distress) and burnout rates were higher in survey II compared to survey I (22% vs 31% p=0.01; 35% vs 49% p=0.001 respectively) suggesting wellbeing and burnout may be worsening overtime. CJP improved (38% vs 54% p&lt;0.001). <br/>Conclusion(s): In the largest global survey series, COVID-19 is impacting on the wellbeing and job performance of oncology professionals. Risk of distress and burnout has increased over time. Urgent measures to address wellbeing and improve resilience are essential. Legal entity responsible for the study: ESMO.

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1. **What’s happened to cancer services during the COVID-19 pandemic?**  
   Cancer Research UK, 2020.

"It’s been 6 months since the UK entered lockdown. And with life slowly opening back up, at least for now, the events of March can sometimes seem distant and otherworldly. But the effects of the COVID-19 pandemic, and the devastating impact it’s had on cancer services, remain. We’ve covered some of COVID-19’s consequences before. But for the first few months all we had were snapshots and relative estimates. Six months on, we’ve got a much clearer picture how cancer services were affected, and how well they’re recovering. Here’s what we know..."

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1. **Why it’s difficult to estimate the number of extra cancer deaths caused by service disruption during COVID-19**  
   Cancer Research UK, 2020.

"Every week, a new figure comes out. And despite the fact that they’re all trying to estimate the same thing – the number of extra cancer deaths that could be caused by service disruption during the pandemic – there’s a big range. Anything from [3,300](https://www.theguardian.com/society/2020/jul/20/coronavirus-may-cause-3500-deaths-in-england-from-four-main-cancers) to [60,000](https://www.itv.com/news/2020-04-22/60-000-cancer-patients-could-die-because-of-lack-of-treatment-or-diagnosis-oncologist-on-coronavirus-dilemma) so far. That’s because estimating the impact of COVID-19 on cancer outcomes is not an easy thing to do. In fact, it’s almost impossible. As the stats saying goes “all models are wrong, but some are useful”. And while there’s been a lot of variation in estimates so far, each serves to highlight the negative impact for people with cancer and just how important it is to get cancer services back up and running. Because while COVID-19 has placed unimaginable stress on health services, it’s vital to provide safe services for patients so that the pandemic doesn’t also cause an increase in deaths from other conditions like cancer..."

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**Word documents**  
Select Edit from the menu, the Find and type in your term in the search box which is presented. The search function will locate the first use of the term in the document. By pressing 'next' you will jump to further references.

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|  | Source | Criteria | Results |
| --- | --- | --- | --- |
| 1. | **AMED, BNI, CINAHL, EMBASE, EMCARE, HMIC, Medline, PsycINFO, PubMed** | ((((forecast\* OR modelling OR predict\* OR project\*) AND (effect\* OR impact\* OR (miss\* ADJ treatment\*) OR backlog OR "back log\*" OR (nhs ADJ capacit\*) OR (risk\* ADJ manag\*))) AND (oncolog\* OR cancer\*)) AND (covid\* OR coronavirus OR "corona virus" OR ncov\*)).ti,ab | 147 |

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