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2020 Cancer Incidence Data in the United States Reveal Effects of the COVID-19 Pandemic

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Routine screening for breast, cervical, and colorectal (CRC) cancers declined dramatically after the COVID-19 public health emergency was declared in early 2020.^{1,2} This was largely due to facility closures, local policies to limit viral spread, and cancellation of non-emergency procedures.^{1,2} Screening generally rebounded later that year, but not uniformly across all areas of the United States (U.S.) or segments of the population.^{1,2} Some people may have also delayed seeking medical care for symptoms suggestive of cancer, due to concerns regarding contact with the virus.³

Three years after the start of the pandemic, the US nationwide cancer incidence data are starting to reveal its impact on cancer diagnoses. Han and colleagues' study using data from the Commission on Cancer's National Cancer Database reported a 17% reduction in stage I cancers diagnosed in 2020 compared to 2019.⁴ Diagnoses of stage IV cancers declined by 9.8%. However, the odds of having a cancer diagnosed as stage IV in 2020 increased by 7% compared to 2019.

One important aspect of Han and colleagues' study was the inclusion of the social deprivation index (SDI). This index is based on area level measures of seven indicators aimed to identify communities that lack social and material resources.⁵ Many communities ranked higher on this index are rural, Indigenous communities, or historically lacked resources due to many factors – such as exclusionary mortgage lending policies.⁶ Cancer patients diagnosed in 2020 vs. 2019 from communities with high SDI levels were nearly 11% more likely to have a stage IV cancer diagnosed compared to stage I – III cancer, and around 7% less likely to have a stage I cancer diagnosed compared to a stage II-IV cancer.⁴

The Centers for Disease Control and Prevention and the National Cancer Institute recently released the 2020 United States Cancer Statistics (USCS) data – the official federal cancer

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statistics.⁷ Cancer is a reportable condition in US states and the District of Columbia, and high quality USCS incidence data for 2020 include nearly everyone diagnosed with invasive cancer in the U.S. USCS provides statistics for American Indian/Alaska Native populations and people living in remote rural areas.⁷ USCS data showed nearly 200,000 fewer new cancer cases reported overall in 2020 compared to 2019. This decrease in the total number of cases is inconsistent with cancer projections that anticipate increases in cases, driven by aging of the U.S. population through 2020 and 2050.⁸ Incidence rates dropped for many cancers including screen-detectable cancers. From 2019 to 2020, new cancer cases per 100,000 population dropped for: female breast from 132 to 119, lung from 54 to 47, CRC from 37 to 33, and cervix from 7.7 to 6.8. Pandemic-related reporting delays to cancer registries may have disproportionately affected rates for cancer sites often diagnosed in outpatient settings, such as prostate and melanoma.⁹

As we continue to monitor changes in cancer incidence patterns that began during the COVID-19 pandemic, there are several issues to consider. For example, progress in cancer control is often measured using population-based surveillance data from USCS; these data tell us whether reductions in incidence have been achieved due to more widespread uptake of effective prevention and treatment. The lower cancer incidence rates observed in USCS 2020 data are likely a result of pandemic-disrupted health services, which led to delays and reductions in cancer screening, diagnosis, and reporting to some central cancer registries.^{1-3,9} These and other data suggest that we may need to emphasize early detection in the upcoming years, especially among populations that have historically lower screening coverage.^{4,7,10,11}

In addition to incidence, cancer mortality trends may be affected by the COVID-19 pandemic in future years. COVID-19 was the third leading cause of death in 2020 and 2021, after heart disease and cancer among the US population.¹² Some people with cancer may have died from COVID-19 or other infectious or chronic illnesses during the pandemic. This was evident in an analysis of mortality data during January 2018 – July 2022, showing that an excess number of persons with cancer died from COVID-19 and other diseases.¹³

Clinicians and public health professionals can help mitigate the effects of the pandemic by ensuring patients return to regular healthcare and screening and receive timely diagnosis and treatment. At-home interventions like mailed fecal immunochemical tests (FIT) may help to expand access and ensure people remain up-to-date with CRC screening in a variety of situations.¹⁴ Other evidence-based strategies, such as those outlined in CDC's Cancer Screening Change Package (<https://www.cdc.gov/cancer/dcpc/resources/change-packages/index.htm>), may help providers and public health professionals appropriately increase their screening services in the post-pandemic era.

As these practices are scaled up, monitoring population-based nationwide surveillance could help assess which strategies are working to reduce cancer burden, particularly for populations disproportionately impacted by the COVID-19 pandemic.

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