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Poster Session

Changes in cancer-related mortality during the COVID-19 pandemic in the United States.

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Background: The coronavirus disease 2019 (COVID-19) pandemic resulted in delayed medical care that may have led to increased death rates in 2020 among people with medical conditions such as cancer. This study examined changes in cancer-related mortality between 2019 and 2020. **Methods:** We used the US 2019-2020 Multiple Cause of Death database from the CDC WONDER to identify cancer-related deaths, defined as decedents with invasive or noninvasive cancer as a contributing cause of death (ICD-10 codes: C00-C97 and D00-D09). We compared age-standardized cancer-related annual and monthly mortality rates (per 100,000 person-years and person-months, respectively) in January-December 2020 (pandemic) versus January-December 2019 (pre-pandemic) overall and stratified by rurality and place of death. We calculated the 2020 excess death by comparing the numbers of observed death with the projected death based on age-specific cancer-related death rate from 2015 to 2019. **Results:** The number of cancer-related deaths was 686 054 in 2020, up from 664 888 in 2019, with an annual increase of 3.2%. Compared to the number of projected deaths for 2020 (666 286), the number of cancer-related excess deaths was 19 768 in 2020. Annual age-standardized cancer-related mortality rate (per 100,000 person-years) continuously decreased from 173.7 in 2015 to 162.1 in 2019, while it increased to 164.1 in 2020 (2020 vs 2019 rate ratio (RR): 1.013, 95% confidence interval (CI): 1.009 - 1.016). The cancer-related monthly mortality rate was higher in April 2020 (RR: 1.032, 95% CI: 1.020 - 1.044) when healthcare capacity was most challenged by the pandemic, subsequently declined in May and June 2020, and higher mortality rates were again observed each month from July to December 2020 compared to 2019. In large metropolitan areas, the largest increase in cancer-related mortality was observed in April 2020, while in non-metropolitan areas, the largest increases occurred from July to December 2020, coinciding with the time-spatial pattern of COVID-19 incidence in the country. Compared to 2019, cancer-related mortality rates were lower from March to December 2020 in medical facilities, hospice facilities, and nursing homes or long-term care settings but higher in decedent's homes. **Conclusions:** The COVID-19 pandemic led to significant increases in cancer-related deaths in 2020 versus 2019. Ongoing evaluation of the spatial-temporal effects of the pandemic on cancer care and outcomes is warranted, especially in relation to patterns in vaccine uptake and COVID-19 hospitalization rates. Research Sponsor: None.

Age-standardized cancer-related mortality rates in 2019 and 2020.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2019*	14.15	12.67	13.94	13.16	13.67	13.12	13.43	13.54	13.18	13.87	13.48	13.84
2020*	14.05	13.01	13.86	13.58	13.36	12.90	13.72	13.78	13.36	13.90	13.79	14.80
Rate ratio	0.99	1.03	1.00	1.03	0.98	0.98	1.02	1.02	1.01	1.00	1.02	1.07

*Rate per 100,000 person-months.