

2022 NPCR NEW YORK SUCCESS STORY

New York State Cancer Registry; Xiuling Zhang, PhD; Margaret Gates Kuliszewski, ScD; Maria J. Schymura, PhD

The Case of the Missing 2020 Cancers: Using Claims Data to Investigate Decreases in Incident Cancer Case Reports in 2020

National Program of Cancer Registries SUCCESS STORY

SUMMARY

The New York State Cancer Registry observed a substantial decrease in cancer case reports for diagnosis year 2020 and used claims data to investigate changes in the volume of cancer-related services. We observed an 8.2% decrease in cancer-related claims in 2020 compared to 2019, with the largest deficit in April of 2020, suggesting an impact of the COVID-19 pandemic on new cancer diagnoses. This deficit in cancer-related claims was observed across encounter types and levels of covariates including age, sex, race/ethnicity, and region of New York State (NYS).

CHALLENGE

As of the end of January 2022, the New York State Cancer Registry had received approximately 10% fewer incident cases for 2020 than expected. Potential contributors to this decrease included reporting delays at the facility level related to COVID-19 or other facility-specific factors or decreases in new cancer diagnoses due to COVID-19-related delays in screening or diagnosis. We sought a way to determine whether the decrease in reporting was primarily related to reporting delays or delays in cancer screening and diagnosis that led to a decrease in incident cancer cases in 2020.

SOLUTION

We examined changes in the volume of cancer claim records to determine the extent to which the COVID-19 pandemic and resulting changes in health care utilization impacted the diagnosis of incident cancer cases among NYS residents in diagnosis year 2020. We obtained claims data for this analysis from the NYS Department of Health's Statewide Planning and Research Cooperative System (SPARCS), which is a comprehensive all-payer data reporting system that includes patient encounters from licensed ambulatory surgery, emergency department, hospital inpatient and outpatient facilities.

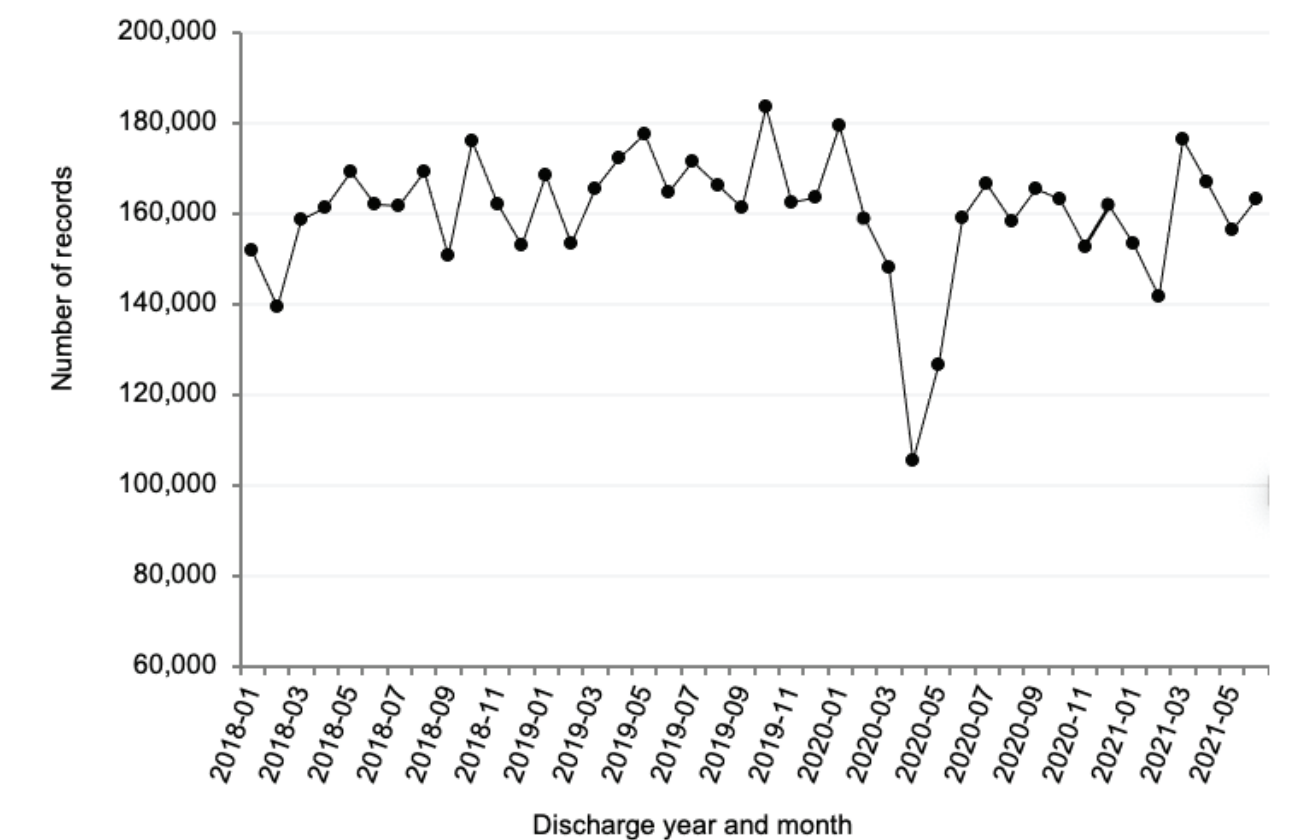
Each claims record includes patient demographics, diagnoses and treatments, services, charges, and up to 17 ICD-10-CM codes associated with each encounter. We extracted SPARCS claim records with any malignant neoplasm diagnosis code (ICD-10-CM diagnosis codes C00-C96 for either the principal, other, or admitting diagnosis) and discharge dates between 1/1/2018 through 6/30/2021 for NYS residents. For claims with multiple records, we kept only the first record per claim based on the record order sequence. We used SAS 9.4 to examine time trends in the number of cancer-related records overall, by encounter type, and by covariates of interest, and used chi-square tests to examine differences in the number of cancer-related records by discharge year and each covariate of interest.

RESULTS

In 2019, there were 5% more cancer-related records than in 2018 (2,009,600 vs. 1,914,346), but in 2020 the number of cancer-related records was 8.2% lower than in 2019 (1,844,054 vs. 2,009,600). Looking by month and year (see Figure 1), the number of claims in the first two months of 2020 exceeded the numbers from 2019 by 5%. However, a decrease in the number of claims started in March 2020, with the biggest drop in April 2020, where there was a deficit of 38.8% for cancer-related encounter reports relative to the same month the previous year.

Although the numbers increased after April 2020, the number of claims for the last half of 2020 was still 4% lower than the same timeframe in 2019. Comparing the number of records in 2020 versus 2019 by type of encounter and by covariates of interest, there were substantial decreases in the number of records in 2020 for all encounter types and across all levels of each covariate examined, including age, sex, race/ethnicity, and region of NYS. Facilities in New York City had a more pronounced and slightly more prolonged drop in reported encounters in 2020 versus 2019 than facilities in the rest of NYS.

FIGURE 1. MONTHLY NUMBER OF CANCER-RELATED RECORDS OBTAINED FROM NYS SPARCS FOR NYS RESIDENTS FOR DISCHARGE YEAR 2018 THROUGH JUNE 30, 2021.



SUSTAINING SUCCESS

Although SPARCS claims data do not provide definitive evidence of decreases in incident cancer diagnoses, these data suggest that there were fewer cancers diagnosed among NYS residents in 2020. Decreases in cancer-related claims were seen across encounter types and levels of age, sex, race/ethnicity, and region of NYS, suggesting that there were fewer cancer diagnoses across all levels of the population. Additional analyses are needed to assess the impacts of COVID-19-related delays in cancer diagnosis and treatment on stage at diagnosis and outcomes. In addition, work is needed to ensure the continuity of cancer screening, diagnostic services, and treatment during future public health emergencies, to minimize delays in cancer diagnosis and care and ensure the best possible outcomes for individuals diagnosed with cancer.

REGISTRY CONTACT INFORMATION

518-474-2255
New York State Cancer Registry Website



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention