

# The Burden of Cancer Among Enrollees Insured Through Commercial Plans in the US (2019-2020)

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Ze Cong<sup>1</sup> and Xiangyang Ye<sup>2</sup>

<sup>1</sup>Health Economics & Outcomes Research, GRAIL, LLC, a subsidiary of Illumina, Inc.,\* Menlo Park, CA, USA; <sup>2</sup>University of Utah, Salt Lake City, UT, USA

## BACKGROUND

- Despite advancements in cancer screenings, diagnoses, and treatments, cancer remains one of the leading causes of death in the United States (US)<sup>1</sup>
- More than 70% of diagnosed cancers do not have a United States Preventive Services Task Force (USPSTF) guideline-recommended screening paradigm, often leading to later diagnoses when cancers have metastasized<sup>2</sup>
- Cancer burden, in terms of cancer epidemiology and proportion of cancers diagnosed at late stages, has been well studied across the US population (SEER)<sup>3</sup> However, the most recent cancer incidences, prevalence rates, and stage distributions across all tumor types among enrollees insured by US commercial insurance plans have not been well quantified

## OBJECTIVES

- To estimate the most recent real-world incidence and prevalence rates of cancer by type and proportion of patients diagnosed at late stage among commercially insured enrollees in the US

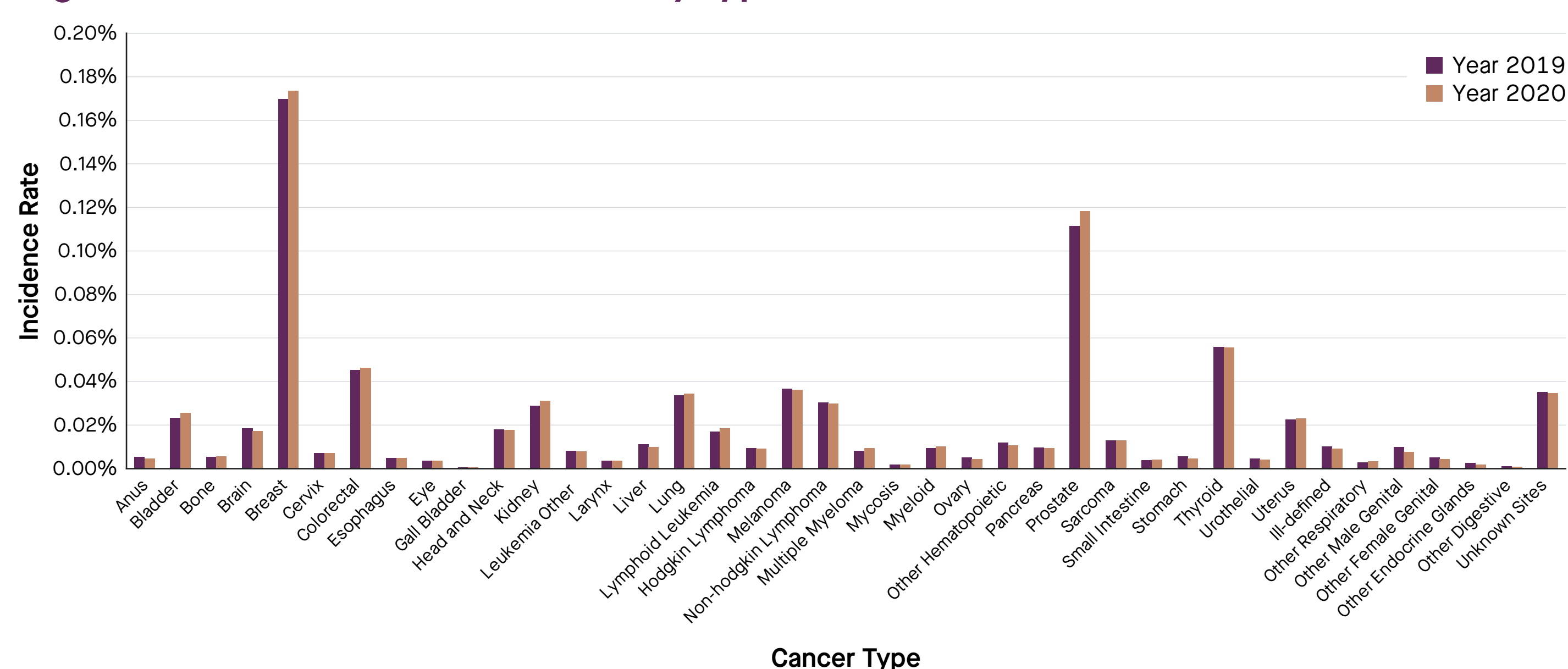
## RESULTS

**Table 1: Demographics, Incidence, and Prevalence of Cancers for 2019 and 2020 Commercially Insured Enrollees**

	2019	2020	
Overall enrollees, N	2,551,797	2,375,037	
Cancer naïve enrollees, N	2,511,715	2,332,152	
Incident cancer cases, N (%)	18,128 (0.72)	17,188 (0.74)	
Prevalent cancer cases, N (%)	56,149 (2.20)	60,166 (2.53)	
Age group, N (%)	<40	1,411,083 (55.30)	1,276,372 (53.74)
	40-49	408,986 (16.03)	371,878 (15.66)
	50-64	650,500 (25.49)	603,263 (25.40)
	65+	81,228 (3.18)	123,524 (5.20)
	Male, N (%)	1,172,630 (45.95)	1,100,640 (46.34)
Geographic region, N (%)	Northeast	366,430 (14.36)	325,563 (13.71)
	Midwest	545,056 (21.36)	549,555 (23.14)
	South	1,207,994 (47.34)	1,082,173 (45.56)
	West	420,943 (16.50)	411,247 (17.32)
	Unknown	11,374 (0.45)	6,499 (0.27)

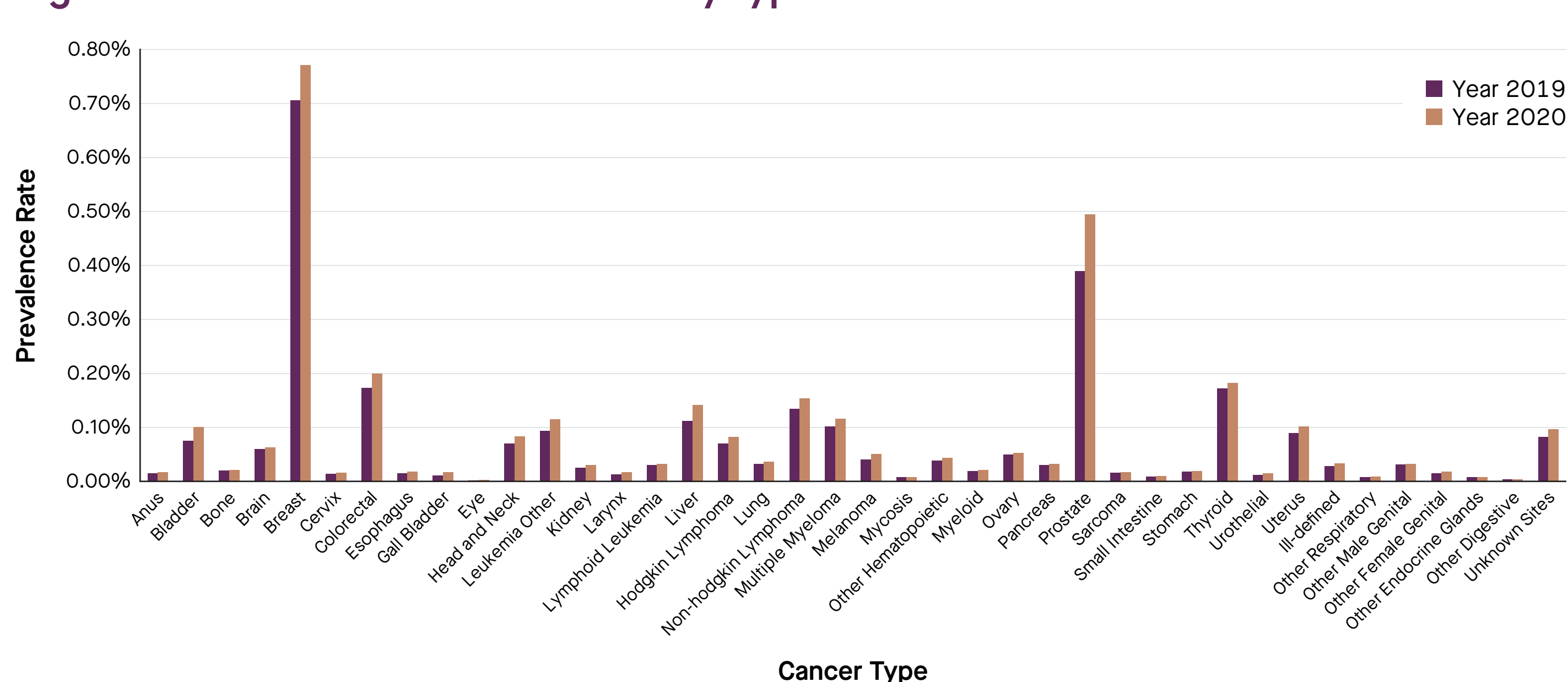
- More than 2 million enrollees were identified in the database in each year, among whom less than 50% were males, more than 50% were over age 40, and more than 40% resided in the South (Table 1)
- The incidence rates (0.72% and 0.74%) and prevalence rates (2.20% and 2.53%) of cancer were consistent between 2019 and 2020

**Figure 1: Incidence Rate of Cancer by Type in 2019 and 2020**



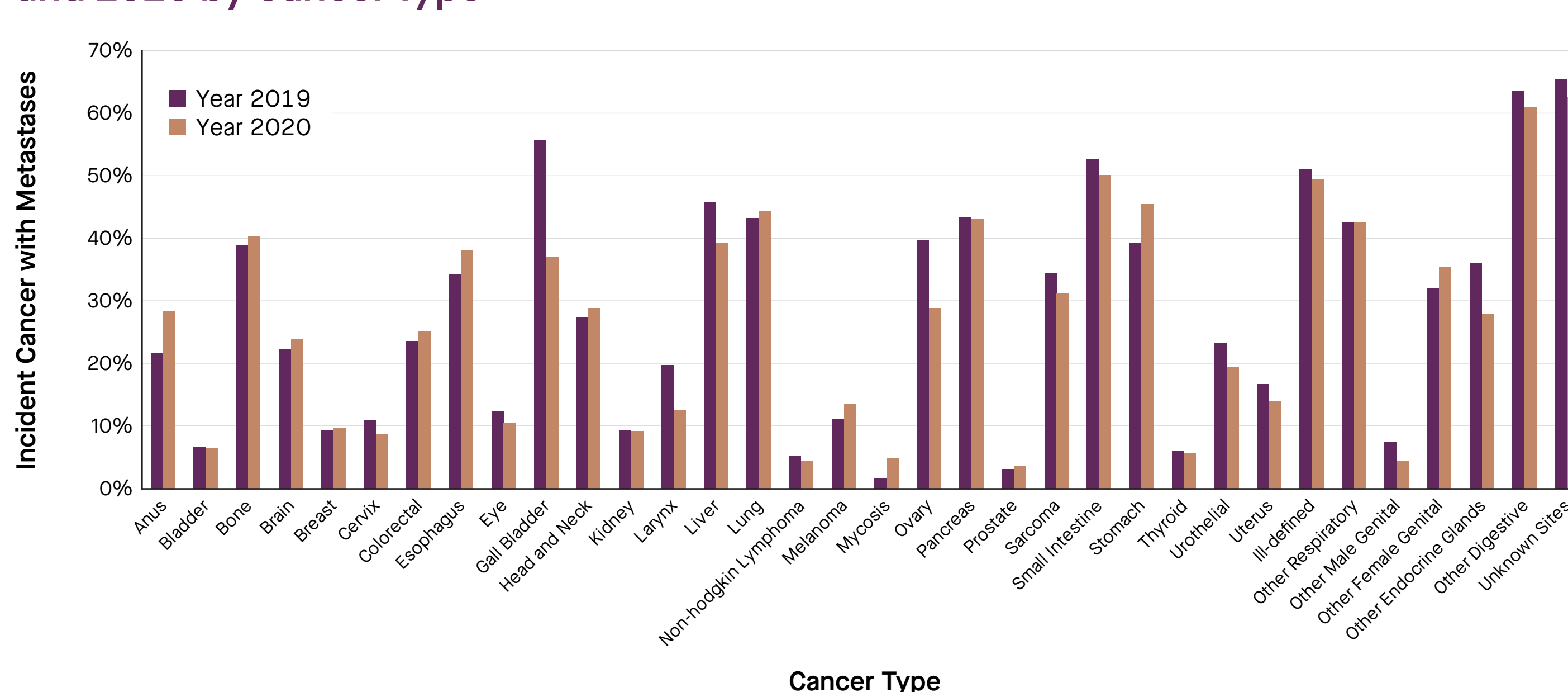
- 68% of incident cancers in both years were cancers that do not have recommended screening protocols (i.e., cancers other than breast, cervical, colorectal, and lung)
- Incidence rates of cancer by type were generally consistent between 2019 and 2020

**Figure 2: Prevalence Rate of Cancer by Type in 2019 and 2020**



- Prevalence rates of cancers by type were consistent between 2019 and 2020

**Figure 3: Proportion of Incident Cancers with Metastases upon Diagnosis in 2019 and 2020 by Cancer Type**



- Many non-screenable cancers had higher proportions of patients with metastases at diagnosis compared to cancers with guideline-recommended screening paradigms. For example, 43% of pancreas, 50-53% of small intestine, 42-43% of respiratory cancers other than lung, and 39-46% of liver cancers had metastases upon initial cancer diagnosis in contrast to 22-24% of breast, 9-11% of cervix, and 24-25% of colorectal cancers

## CONCLUSIONS

- The burden of cancer in terms of incidence and prevalence rates remains high among commercially insured enrollees in the US
- Cancers without common screenings are more likely to be diagnosed at a later stage
- Earlier cancer detection could enable more efficient treatments and improve outcomes

## References

1. Siegel RL, et al. *CA Cancer J Clin*, 72: 7-33, 2022.
2. Cancer Facts & Figures 2022. American Cancer Society, <https://www.cancer.org/research/cancer-facts-statistics/all-cancer-facts-figures-2022.html>. Accessed September 29, 2022.
3. SEER Cancer Stat Facts. SEER. <https://seer.cancer.gov/statfacts/>. Accessed September 29, 2022.

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## Disclosures

ZC is an employee of GRAIL, LLC, a subsidiary of Illumina, Inc.\* XY received funding from GRAIL, LLC, a subsidiary of Illumina, Inc.\* to conduct the analyses.

\*GRAIL, LLC is currently held separate from Illumina, Inc. under the terms of the Interim Measures Order of the European Commission dated 29 October 2021.



## METHODS

- A retrospective analysis was conducted using MarketScan® Treatment Pathways including enrollees from 2014-2020 (Figure 4)
- MarketScan® databases offer one of the largest convenience samples available in proprietary US databases, and captures the continuum of care with administrative claims from privately insured Americans
- MarketScan® Treatment Pathways overlays a cloud-based analytic interface onto large patient-level databases. It supports cross-sectional and longitudinal analyses, descriptive reporting, iterative exploratory research, and quick querying
- Incident and prevalent cancer cases in 2019 and 2020 were identified using ICD-10 codes (2 outpatient claims ≥30 days apart or 1 inpatient claim)
- Incident cases were required to have no cancer claims during the 6 months prior to cancer diagnosis
- Data from the entire time period were leveraged to identify prevalent cases (Figure 4)
- Metastases at cancer diagnosis were identified using secondary malignant neoplasm codes within 30 days after diagnosis
- Cancer types were grouped into cancers with commonly recommended screenings (breast, colorectal, lung, and cervical cancers) vs. others

**Figure 4: Study Schema**

