Time to Diagnosis Among Patients with Cancer in the US

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DECLARATION OF INTERESTS

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Consulting fees from *GRAIL LLC, a subsidiary of Illumina, Inc

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

Background

- Prior to cancer diagnosis, patients may present to a healthcare providers with unspecific signs and symptoms without a clear diagnosis pathway, which often leads to a lengthy diagnosis process, treatment delay, and high costs.[1-3]
- Multiple countries, including UK, Denmark, Sweden, Canada and Australia, have identified the importance and established national guidelines, special programs, and pathways to improve the efficiency in cancer diagnoses[4-9]
- Limited real-world evidence exists for cancer diagnosis durations in the United States.

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3.Blumen H, et al. Am Health Drug Benefits. 2016;9(1):22-32.
4.Canadian Strategy for Cancer Control 2019-2029.
5.Optimal care pathways. Cancer Council
6.NICE. Suspected cancer recognition and referral – NICE Pathways
7.Nicholson BD, et al. The Suspected CANcer (SCAN) pathway: protocol for evaluating a new standard of care for patients with nonspecific symptoms of cancer. BMJ Open. 2018;8(1), e018168.
8.Vedsted P, et al.. A differentiated approach to referrals from general practice to support early cancer diagnosis – the Danish three-legged strategy. Br J Cancer 2015;112(Suppl 1):S65-S69.
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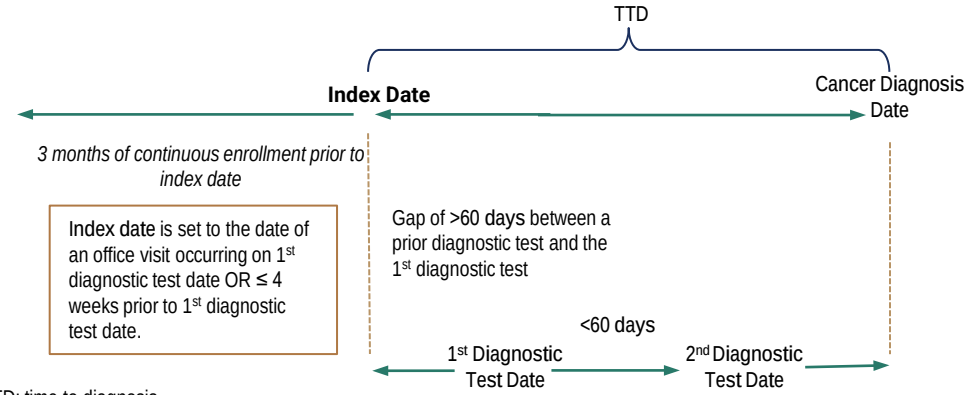
Methods

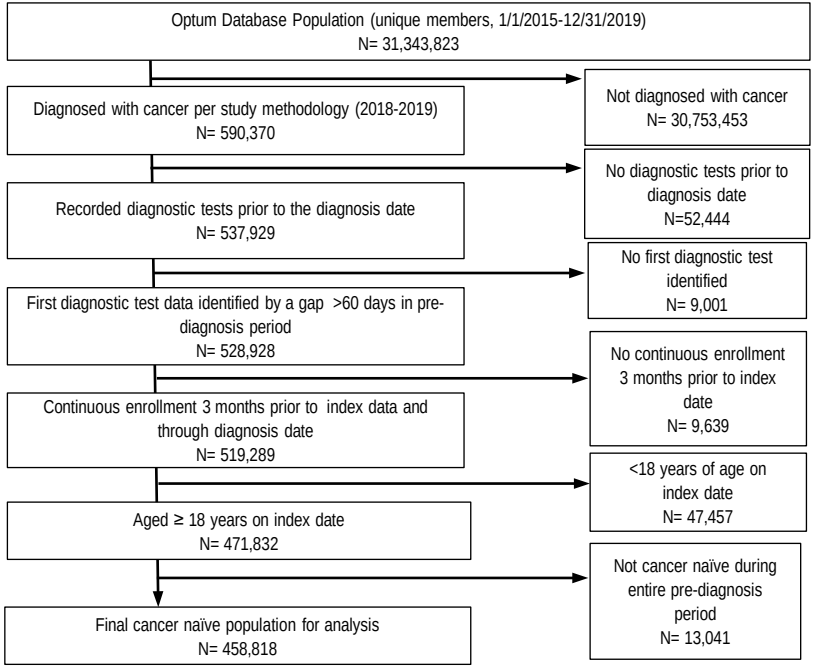
- A retrospective claims analysis of patients newly diagnosed with cancer in 2018-2019 was conducted using Optum's de-identified Clinformatics® Data Mart Database including Medicare Advantage and commercially insured members from enrollees from a large private insurance plan in the US.
  - Most enrollees are employees and their dependents
- Patients were identified using cancer-related ICD-10 codes requiring ≥2 outpatient visits ≥30 days apart or 1 inpatient visit without prior cancer claims.
- The TTD (time from index to cancer diagnosis date) was summarized descriptively for all patients and by tumor type.



TTD: time to diagnosis

Results

Patient Selection and Baseline Characteristics

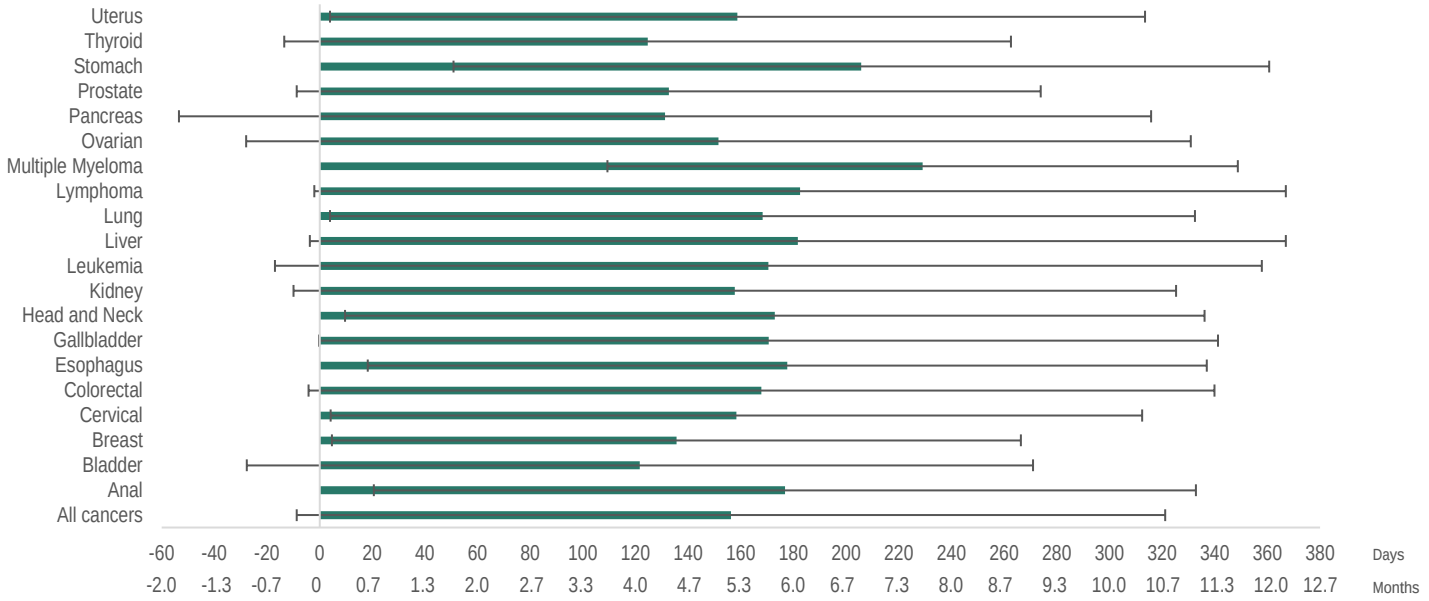


Characteristics	All Cancers* N= 458,818
Age, years	
mean (SD)	70.6 (11.0)
Sex, %	
Males	50.4%
Females	49.6%
Race, %	
White	65.0%
Black	11.1%
Hispanic	8.3%
Asian	2.5%
Missing	13.2%
Primary Insurance, %	
Medicare Advantage	74.0%
Commercial	24.0%
Both	2.0%
Charlson Comorbidity Index (CCI)[d]	
mean (SD)	2.1 (1.4)

*"All cancers" includes 20 cancer types; CCI, Charlson Comorbidity Index; SD, standard deviation

Results

Mean Time to Diagnosis



"All cancers" includes 20 cancer types; Bladder includes urothelial; Lung includes bronchus; Month assumed to equal 30 days; Standard deviation (SD) shown in error bars

Mean (SD) TTD was 5.2 (5.5) months and varied across cancer types and among patients with the same cancer type.

TTD: time to diagnosis; SD: Standard Deviation

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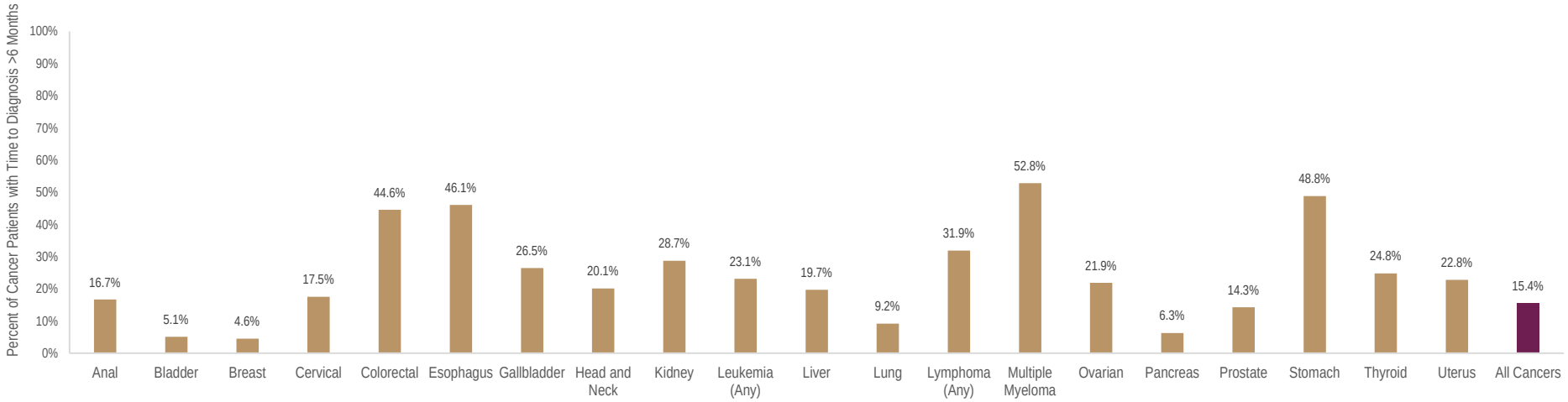
Results

Percent of Cancer Patients with Time to Diagnosis >6 Months



"All cancers" includes 20 cancer types; Bladder includes urothelial; Lung includes bronchus

- 15.4% of all cancer patients had a TTD of >6 months
- Kidney (28.7%), colorectal (44.6%), gallbladder (26.5%), esophagus (46.1%), lymphoma (31.9%), stomach (48.8%), and multiple myeloma (52.8%) cancers had more than one quarter of patients with more than 6 months of TTD.

TTD: time to diagnosis

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Conclusions

- A notable proportion of patients newly diagnosed with cancer experienced a lengthy diagnosis process of > 6 months, highlighting the opportunity for increased inefficiency with regard to cancer diagnosis in the United States.
- Large heterogeneity exists across cancer types and across different patients within the same cancer type.
- Policy changes, guidelines, and medical interventions that streamline cancer diagnosis pathways are needed to optimize patient outcomes.

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Thank you!

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