



ASCO Abstract Submission 2021

Category: Health Services Research and Quality Improvement -> Real-World Data

Title: Impact of COVID-19 on Delay in Cancer Diagnostic Testing

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Background: Early diagnosis is key to the best treatment options and possible outcomes for cancer patients. However, the COVID19 pandemic has put a heavy burden on the US healthcare system, causing hospitals and medical centers to stop or delay routine cancer screenings such as mammograms, pap tests, colonoscopies, CT scans and PSA assays. Subsequently, cancer diagnostic testing and cancer patient care have also been disrupted.

Methods: To determine the extent of cancer diagnostic testing that was impacted during the COVID 19 pandemic in 2020, we analyzed the changes in cancer test volume at NeoGenomics Laboratories Inc. between 2019 and 2020, and especially between March and June 2020. Unique patient test counts were categorized by cancer types as determined by the diagnostic ICD 10 code C00-D49 (with a minimum of 100 tests in 2019).

Results: Comparing test volumes in 2020 to 2019, an overall decrease in tests ordered in 2020 was seen for multiple cancers. These cancers include malignant neoplasms of breast (16%) and malignant neoplasm of bronchus and lung (19%), followed by malignant neoplasm of colon, polycythemia vera, and Hodgkin lymphoma. In addition, a decrease in benign cancers, and decreases in benign neoplasm of colon, rectum, anus and anal canal was observed.

To determine if the US stay-at-home order implemented between March and early June 2020 had affected test volume, month-to-month comparison shows the greatest impact in test volume in malignant neoplasm of breast: a 28% decrease comparing April 2020 to April 2019, and a 32% decrease comparing May 2020 to May 2019. Similarly, a 24% and 33% decrease were seen in malignant neoplasm of bronchus and lung for the same months. Individual tests specific for breast and lung cancer also showed similar decreases: 49-56% decrease for Breast Triple Stain (CK5 + p63 + CK 8/18), 11-41% decrease for ER test, and up to 39% decrease for HER2 diagnostic tests. Tests for ALK fusions for lung cancer showed decreases in test volume ranging from 15% to 30% during April, May and June 2020 as compared to 2019. Interestingly, we found that the total test volumes for each age group (increments of 10 up to age 80) decreased

April and May 2020 as well, compared to April and May 2019. We did not see a difference in test volume decreases based on patient gender.

Conclusions: There was a decrease in cancer tests ordered during the pandemic in 2020 for most cancer types, with a large decrease found in breast, lung and colon cancer. The sharp decrease in breast cancer tests is important to note as breast cancer has recently been identified as the most diagnosed form of cancer, surpassing lung cancer. This impact in cancer testing may translate to delayed diagnosis and treatment options. It remains to be seen whether this will lead to more aggressive cancer treatments, or to a greater patient mortality. It is imperative that we continue to monitor and screen patients for cancer as the pandemic continues or during any healthcare crisis in the future.