Impact of the COVID-19 Pandemic on Cervical and Breast Cancer Screening

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Background

- Oncology screening programs are a critical component to reduce cancer-related morbidity and mortality; the United States Preventative Services Taskforce recommends biennial screening for breast cancer and cervical cancer screening every 3-5 years.[1-4]
- There is concern that reductions in preventative care during the COVID-19 pandemic could have impacted compliance with screening programs and thus influence cancer related morbidity and mortality in the longer term.[5]

Objective

- This analysis investigated compliance with breast and cervical cancer screening programs from 2018 to 2020 to investigate potential impacts of the COVID-19 pandemic.

Methods

Data Source

- Merative™ MarketScan® Commercial and Medicare Database from 1 January 2014 through 31 December 2020.
  - The MarketScan administrative claims databases contain data on the full healthcare experience (inpatient, outpatient, and outpatient pharmacy) for individuals with employer sponsored commercial or Medicare insurance plans.

Study Design

- National Quality Forum Breast Cancer Screening and Cervical Cancer Screening measures were calculated in the MarketScan Commercial and Medicare Database for the 2018, 2019, and 2020 measurement years.
  - The Breast Cancer Screening measure examines the percentage of women aged 50-74 who had at least one mammogram between October 1 two years prior through December 31 of the measurement year. Women with a history of bilateral mastectomy, hospice services, or in long-term care are excluded from the measure sample. To ensure all mammograms were captured eligible women were also required to have continuous eligibility for the entire measurement period.
  - The Cervical Cancer Screening measure assesses the percentage of women aged 21-64 who were screened for cervical cancer based on either of the following criteria:
    - Cervical cytology in the last 3 years
    - High-risk human papillomavirus (hrHPV) testing in the last 5 years for women aged 30-64

    Women without a cervix are excluded from the measure sample. To ensure all cervical cancer screening tests were captured women were required to have continuous eligibility for the entire measurement period.
- Age and region of residence were examined as of December 31 of the measurement year. While the mean Charlson Comorbidity Index (CCI) was calculated over the measurement year.

Results

Study Populations

- Approximately 2 million and 2.5 million women per measurement period were eligible for the breast cancer screening and cervical cancer screening measures respectively (Table 1).

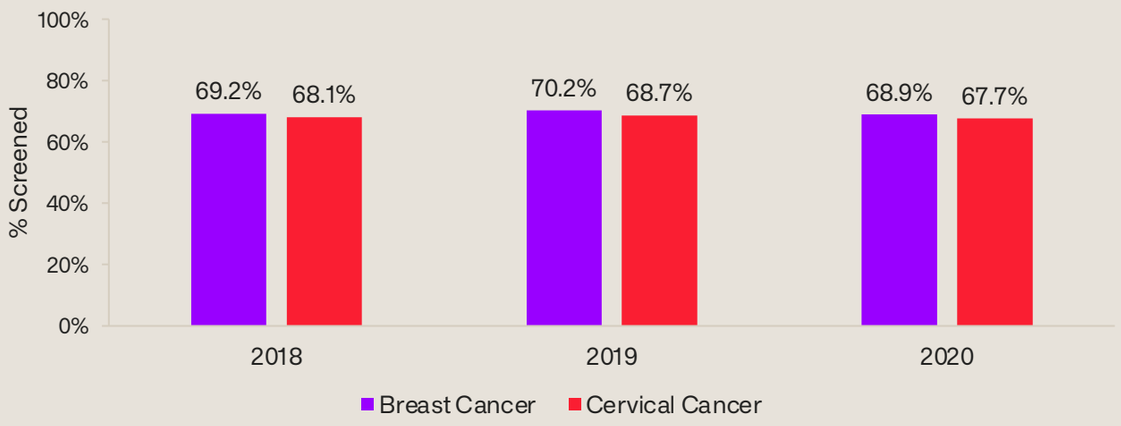
Table 1. Eligible Women per Measurement Period

	2018	2019	2020
Breast Cancer	2,161,242	2,027,080	1,944,591
Cervical Cancer	2,659,139	2,617,879	2,451,259

Screening Compliance

- Rates of screening were consistent year over year, with approximately 70% of women meeting screening requirements in each of the measurement periods (Figure 1).

Figure 1. Compliance with Women's Cancer Screening

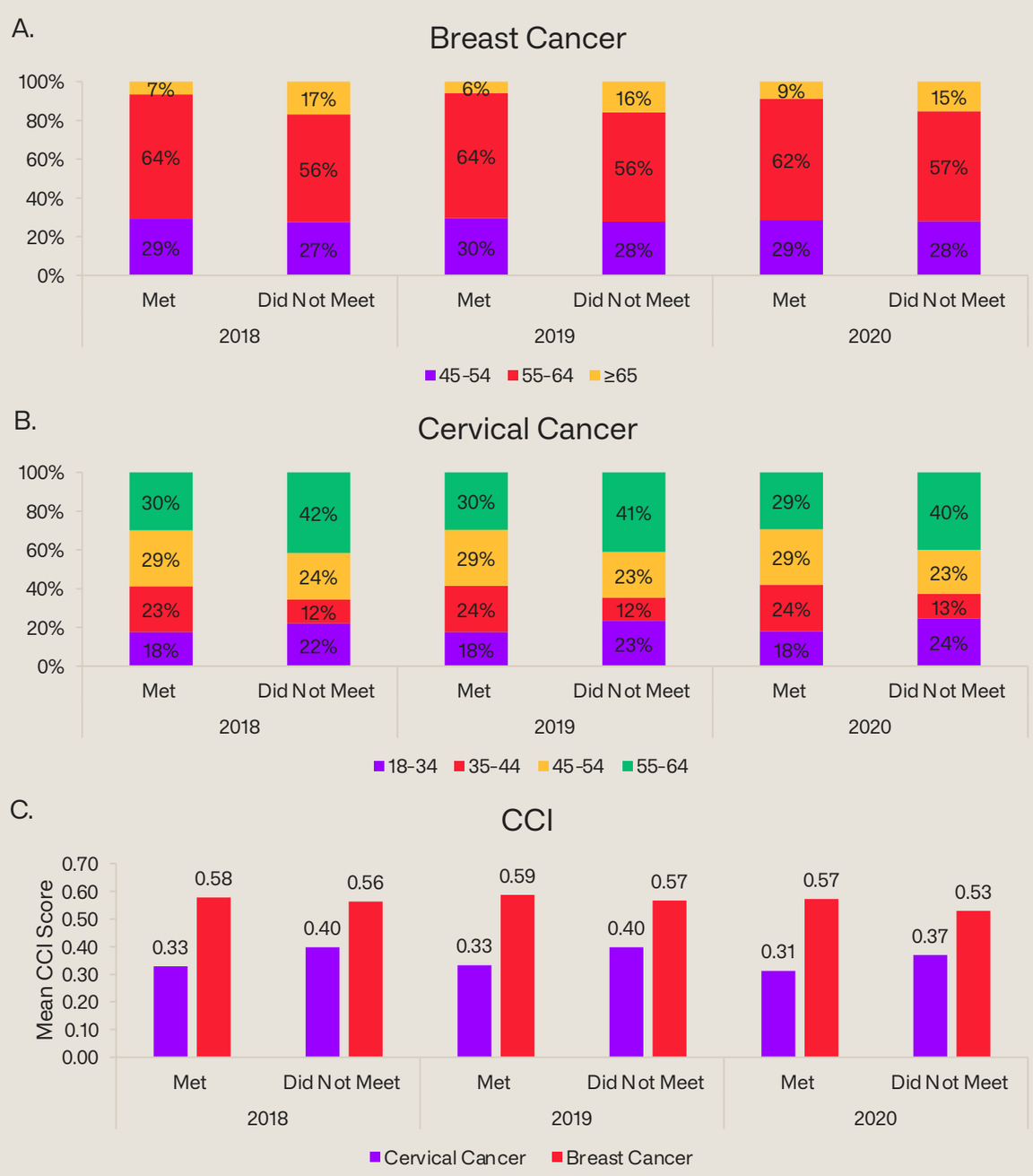


Results, continued

Patient Characteristics Based on Screening

- For both the breast cancer and cervical cancer samples, women who did not meet the measure tended to be older (Figure 2A-B).
  - Within breast cancer age groups, the highest screening rates were observed for women aged 55-64 (70.9-72.9%) and 45-54 (69.4-71.6%); women aged 65-74 had rates of screening <60%.
  - Within cervical cancer age groups, the highest rates of screening were observed for women aged 35-44 (80.0-81.0%) followed by 45-54 (72.1-73.0%; other age groups had screening rates <65%.
- There were no notable differences in region of residence between women who did or did not meet the measure.
- Consistent with their increased age, the breast cancer cohorts had a higher mean CCI compared to the cervical cancer screening cohorts (Figure 2C).
  - For breast cancer, women who met the measure had a higher average CCI than those who did not; the trend was reversed in the cervical cancer cohorts.

Figure 2. Patient Characteristics by Screening Status



Conclusions

- Rates of breast and cervical cancer screening in the MarketScan database are in line with published benchmarks and did not appreciably change during the COVID-19 pandemic.
  - As these are multi-year measures, the full potential impact of the COVID-19 pandemic on preventative screening cannot yet be fully assessed.
- Although screening rates were relatively high, there is room for improvement especially within younger cervical cancer and older cervical and breast cancer populations.

Limitations

- Claims have limited information on demographic or other socioeconomic factors that may influence screening.
- Only fully insured patients were eligible for the analyses; thus, screening rates may not generalize to the uninsured.

Conflicts of Interest

- The authors have no conflicts of interest to report.

References

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