

Cancer Screening Rates Returning to Pre-Pandemic Levels

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Key Takeaways

- Timely screening is essential to early cancer detection and treatment, though screening rates declined during the pandemic.
- This study reveals that screening rates are returning to pre-pandemic levels for breast, cervical, and colorectal cancers by the third year following the start of COVID-19.
- Individuals with one or more chronic conditions had higher screening rates as compared to individuals with no chronic conditions, perhaps due to more healthcare encounters.



Cancer screenings are an essential component of cancer prevention and treatment.

Overview

Previous studies have documented drops in cancer screening during the COVID-19 pandemic. One study estimated that there were 9.4 million missed screening tests in 2020.¹ While screening rates had some rebound in 2021, rates remained below pre-pandemic levels.² Two primary factors account for this decrease in screening: individuals taking precautions to reduce exposure to COVID-19 and reduced provider availability during that time.

These documented reductions in screenings have led to concerns about resultant delays in cancer detection and treatment.^{3–5}

This study examined recent trends in common cancer screening tests that are performed in person—for breast, cervical, and colorectal cancers—to determine whether rates had returned to pre-pandemic levels by the end of February 2023, three years after the start of the COVID-19 public health emergency (PHE).

Background

In 2022, cancer was the second most common cause of death in the U.S., following heart disease (609,360 deaths in 2022).⁶ While this statistic reflects a need for ongoing research and prevention, in recent years significant progress has been made to reduce cancer mortality.

Between 2015 and 2019, cancer death rates decreased by 2.1 percent per year, among men and women combined.⁷ These improvements are due both to treatment advances across several cancer types as well as improvements in cancer prevention.

Cancer screenings are an essential component of cancer prevention and treatment. Screening tests can identify pre-cancerous tissue or cancer while it is at an early stage, before other symptoms are present. When abnormal tissue or cancer is detected early, there is a greater chance that it can be successfully treated or even cured.⁸

Screening Recommendations

The U.S. Preventive Services Task Force (USPSTF) is an independent organization that makes recommendations for the receipt of preventive services, including but not limited to cancer screenings. USPSTF's recommendation process includes a review of the evidence and opportunity for public comments.



This paper reports trends of in-person breast, cervical, and colorectal cancer screening rates.

Screening for Breast Cancer. USPSTF recommends that women between the ages of 50 and 74, who are at average risk, receive a mammogram every two years.⁹

Screening for Cervical Cancer. Both a Papanicolaou (Pap) test and human papillomavirus (HPV) test are used for early detection and possible prevention of cervical cancer. A Pap test screens for precancerous cells leading to cervical cancer. An HPV test screens for the HPV virus, which can lead to cervical cancer as well as other cancers. USPSTF first recommended HPV testing as part of regular screening in 2012.¹⁰

USPSTF recommends that women of average risk between the ages of 21 and 29 receive cervical cancer screening (Pap tests) once every three years. For women 30 to 65 years of age who are of average risk, there are three options: (1) Pap test alone every three years, (2) a combined HPV and Pap test every five years, or (3) an HPV test alone every five years. This recommendation was adopted in 2018 by USPSTF. Previously, the recommendation had been a Pap test alone or combined HPV and Pap test every three years for average risk women.¹¹

While both HPV and Pap tests are effective in cancer screening, the newer HPV test has been determined to be more accurate and reliable than the Pap test.¹² Because of the increased emphasis on HPV testing in recent years, this paper reports rates of screening for cervical cancer overall in accordance with USPSTF cervical cancer screening recommendations for women 21 to 65 years of age as well as specifically reports rates of HPV screening among women 30 to 65 years of age.

Screening for Colorectal Cancer. Prior to 2023, including during the study period, the USPSTF recommended colorectal cancer screening for adults between the ages of 50 and 75. In 2023, the recommendation was updated for colorectal cancer screening to begin at age 45.¹³ USPSTF recommends several screening methods (stool-based tests, colonoscopy, CT colonography, or flexible sigmoidoscopy) for colorectal cancer screening. The frequency of screening varies by screening method.

This paper reports rates of in-person screening for colorectal cancer with colonoscopy, which is recommended to occur every 10 years for average risk individuals. The colonoscopy screening rates reported in this paper include individuals between the ages 50 and 75 which aligns with the USPSTF recommendations during the study period.

Methods

This was a retrospective study using Elevance Health claims data for Commercial and Medicare Advantage members from across the U.S., from March 2019 through February 2023.

The pre-pandemic baseline period included 12 months (March 2019–February 2020). The follow-up periods included three 12-month measurement periods starting March 2020, which is the month when the PHE was first declared:

Pre-Pandemic Baseline	March 2019–February 2020
PHE Year One	March 2020–February 2021
PHE Year Two	March 2021–February 2022
PHE Year Three	March 2022–February 2023



Cancer screening rates are analyzed over a four-year period, from March 2019 to February 2023.

Individuals were included in the calculations for each screening rate if they were eligible for a screening test based on age and gender concordance with the USPSTF screening guidelines. Individuals also had to have 12 months of continuous enrollment in a measurement period. Individuals were not excluded from the calculations based on time elapsed since their last screening exam, meaning that some portion of the identified eligible individuals based on age and gender would not actually be eligible in that year. Likewise, the rate also includes individuals who are eligible to receive more frequent screening tests based on higher risk factors.

Screening rates were determined by calculating the number of individuals receiving a preventive screening divided by the number of eligible individuals. The preventive screening services were identified in claims data using the Affordable Care Act (ACA) services lists for screening tests that were performed in person.^{14,15} While the metrics in this report are based on USPSTF guidelines, Elevance Health’s affiliated plans cover services based on additional screening guidelines such as American Cancer Society (ACS) and ACA requirements.

The proportions of preventive screenings that occurred during each 12-month measurement period were standardized by age, gender, region, and Elixhauser Comorbidity health status scores observed in the pre-pandemic 12-month baseline period.^{16,17} Chi-square tests assessed statistical significance of differences between pre-pandemic baseline and follow-up measurement periods.

The purpose of this analysis was to illustrate trends over time for the different screening measures, in light of the previously reported declines in screening in 2020-2021. Because average risk individuals are not expected to receive screenings each year, it is not expected to see all eligible individuals receiving a screening each year.

Results

The total number of individuals included in each screening test cohort ranged from about 4 million, for breast cancer screening, to about 9 million, for cervical cancer screening.

The average age was 59.5 for the breast cancer screening cohort, 42.8 for the cervical cancer screening cohort, 47.3 for the HPV screening cohort, and 59.6 for the colonoscopy screening cohort. Around 45 percent of individuals in the breast cancer and colonoscopy screening cohorts had two or more chronic conditions, while less than one third of the cervical and HPV screening cohorts did. (Table 1)

Table 1
Cancer Screening Cohorts

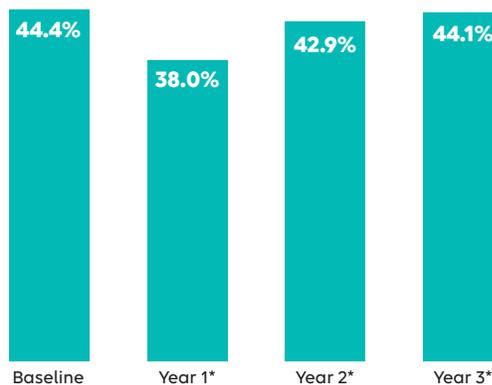
	Breast Cancer		Cervical Cancer Ages 21-65		HPV Ages 30-65		Colonoscopy	
	Number of Individuals*	%	Number of Individuals*	%	Number of Individuals*	%	Number of Individuals*	%
No Chronic Conditions	1,256,000	32	4,505,000	50	3,277,000	45	2,599,000	33
One Chronic Condition	863,000	22	2,050,000	23	1,665,000	23	1,672,000	21
Two or More Chronic Conditions	1,831,000	46	2,536,000	28	2,318,000	32	3,536,000	45
Total	3,949,000	100	9,091,000	100	7,260,000	100	7,806,000	100

*Number of individuals is rounded to nearest 1,000; Total impacted by rounding.

Breast Cancer Screening

During the first year of the pandemic, breast cancer screening rates dropped by 6.5 percentage points, a relative decrease of 14.5 percent as compared to the 12 months prior to the start of the PHE. In the second year, breast cancer screening rates increased over the first pandemic year but remained 1.5 percentage points below the pre-pandemic baseline. In the third year, rates were within half a percentage point of the pre-pandemic baseline. (Figure 1)

Figure 1
Breast Cancer Screening Rates by Year



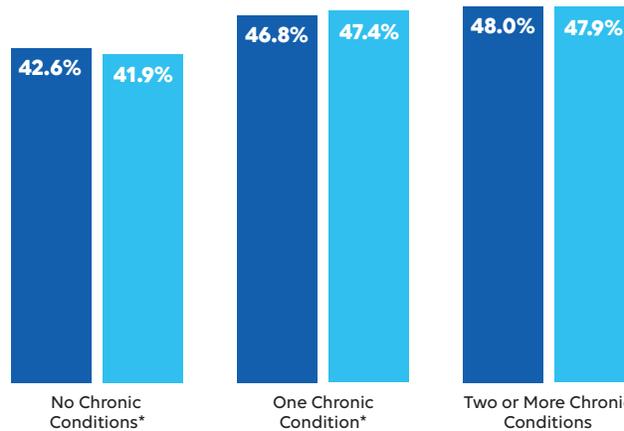
*Screening rate is significantly different ($p < 0.05$) than pre-pandemic baseline period.

Individuals with chronic conditions tended to have higher rates of breast cancer screening as compared to individuals with no chronic conditions. In addition, in the third year of the pandemic, individuals with any chronic conditions had rates of screening mammography very similar to those of the pre-pandemic baseline period. Individuals without chronic conditions were still slightly below the pre-pandemic baseline in the third year. (Figure 2)

Figure 2

Breast Cancer Screening Rates by Individual Health Status

■ Baseline
■ Year 3



*Screening rate is significantly different (p<0.05) than pre-pandemic baseline period.

Cervical Cancer Screening

The cervical cancer screening measure includes women ages 21 to 65, receiving Pap and/or HPV tests according to USPSTF guidelines. During the first year, cervical cancer screening rates dropped by 4.4 percentage points, a relative decrease of 15.4 percent as compared to the 12 months prior to the start of the PHE. In the second year, screening rates increased from the first pandemic year, but remained 2 percentage points below the pre-pandemic baseline. In the third year, rates for this screening measure remained below pre-pandemic levels. The relatively recent changes in guidelines from a three-year to five-year frequency in screening for women ages 30 to 65 may be a factor in the lower screening rates. (Figure 3)

Figure 3

Cervical Cancer Screening Rates by Year

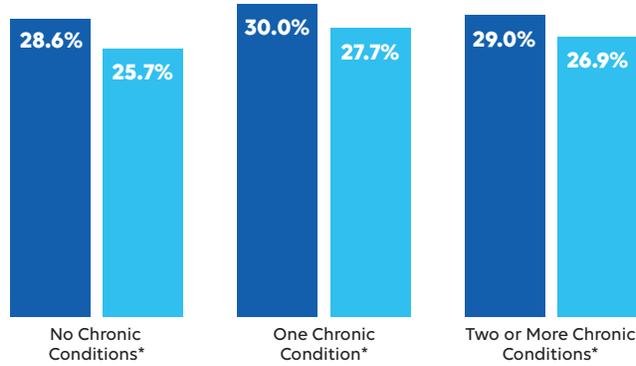


*Screening rate is significantly different (p<0.05) than pre-pandemic baseline period.

Individuals with one or more chronic conditions had slightly higher rates of cervical cancer screening as compared to women without chronic conditions. As with the overall cervical cancer screening rates, regardless of number of chronic conditions, screening rates in Year 3 had not fully rebounded to pre-pandemic levels. (Figure 4)

Figure 4
Cervical Cancer Screening Rates by Individual Health Status

■ Baseline
 ■ Year 3

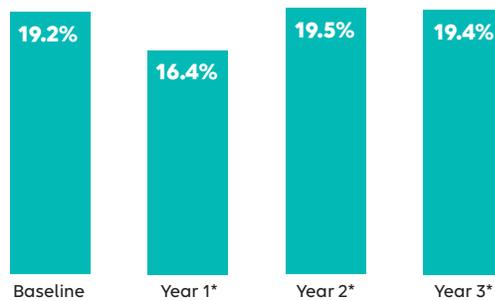


*Screening rate is significantly different ($p < 0.05$) than pre-pandemic baseline period.

HPV Screening

Given the recent emphasis on HPV screening as a preferred test for cervical cancer screening, this measure is also presented separately for women ages 30 to 65 (HPV screening is not a USPSTF recommendation for women under the age of 30). During the first year of the pandemic, HPV screening rates dropped by 2.8 percentage points, a relative decrease of 14.5 percent compared to the baseline rate. In the second and third years, screening rates increased slightly above the pre-pandemic baseline. In 2020, the ACS made HPV test every five years the preferred cervical cancer screening test for average risk women, which may account for the slightly higher rates in the second and third years. (Figure 5)

Figure 5
HPV Screening Rates by Year

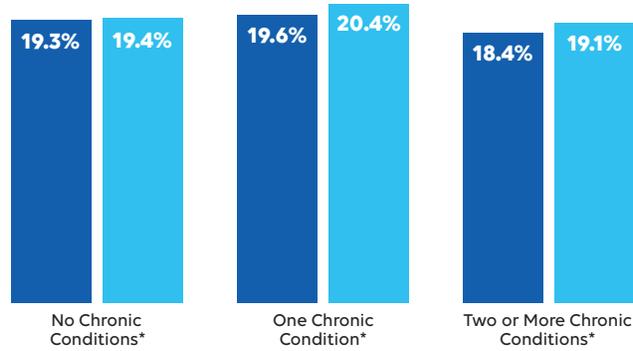


*Screening rate is significantly different ($p < 0.05$) than pre-pandemic baseline period.

Individuals with one or more chronic conditions had a greater increase in HPV screening relative to the pre-pandemic period as compared to individuals without any chronic conditions. An encouraging finding for HPV screening is that the cohort of individuals without any chronic conditions also returned to pre-pandemic screening levels. (Figure 6)

Figure 6
HPV Screening Rates
by Individual Health Status

■ Baseline
 ■ Year 3



*Screening rate is significantly different ($p < 0.05$) than pre-pandemic baseline period.

Colonoscopy Screening

The colonoscopy screening measure includes men and women ages 50 to 75. During the first year of the PHE, colonoscopy screening rates dropped by 2.8 percentage points, a relative decrease of 26.3 percent compared to the baseline period. In the second year, screening rates increased to within a percentage point of the pre-pandemic baseline, and by the third year, rates were slightly above the pre-pandemic rates. (Figure 7)

Figure 7
Colonoscopy Screening Rates
by Year,
Among Men and Women



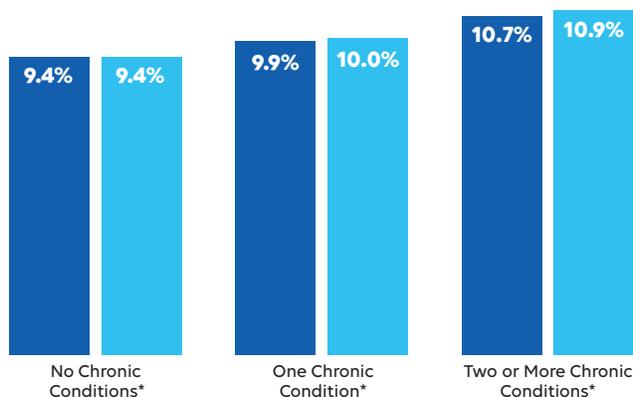
*Screening rate is significantly different ($p < 0.05$) than pre-pandemic baseline period.

Individuals with one or more chronic conditions had higher rates of colonoscopy screening in both the baseline year and Year 3 as compared to individuals with no chronic conditions. In addition, in Year 3, individuals with chronic conditions had slightly higher rates of colonoscopy screening as compared to the pre-pandemic baseline. Individuals with no chronic conditions had similar rates of screening colonoscopies in the third year and the pre-pandemic baseline. (Figure 8)

Figure 8

Colonoscopy Screening Rates by Individual Health Status, Among Men and Women

■ Baseline
■ Year 3



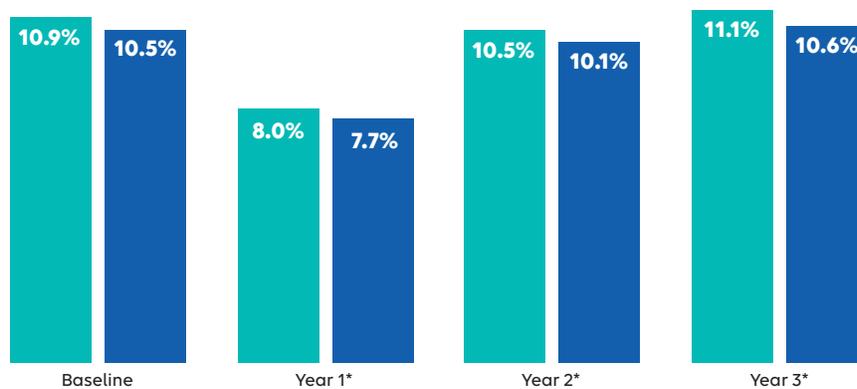
*Screening rate is significantly different ($p < 0.05$) than pre-pandemic baseline period.

While it has been previously reported that men have lower rates of preventive care than women,¹⁸ the trends in colonoscopy screening were encouraging among both men and women in this data analysis. During the first year of the PHE, colonoscopy screening rates for women dropped by 2.9 percentage points (a relative decrease of 26.4 percent) while rates for men dropped by 2.7 percentage points (a relative decrease of 26.1 percent) compared to the pre-pandemic baseline. In the second and third years, screening rates increased to within half of a percentage point of the pre-pandemic baseline for both men and women. By the third year, rates for both men and women were slightly above the pre-pandemic rates. (Figure 9)

Figure 9

Colonoscopy Screening Rates by Year, Comparing Men and Women

■ Women
■ Men



*Screening rate is significantly different ($p < 0.05$) than pre-pandemic baseline period.

As with the other comparisons, both men and women with one or more chronic conditions had higher rates of screening colonoscopies in the baseline and follow-up periods, as compared to individuals with no chronic conditions. By the third year, regardless of number of chronic conditions, rates of screening colonoscopies for women and for men had rebounded to the pre-pandemic baseline.

Implications and Interventions

This is one of the first studies to include 2023 data on screening rates for commercially insured and Medicare Advantage members. The data reveals that cancer screening rates are returning to pre-pandemic levels, with the greatest increases for colonoscopy screening, rebounding 38 percent from Year 1 to Year 3.



In-person cancer screening rates are returning to pre-pandemic levels in 2022-2023.

Individuals with chronic conditions had higher screening rates and were more likely to have returned to pre-pandemic screening levels. One factor driving this difference could be that individuals with chronic conditions have more interactions with the healthcare system, resulting in additional opportunities for screening. Certain chronic conditions may also create higher-than-average risk for cancer, prompting more frequent screening tests. Conversely, individuals without chronic conditions will generally have fewer interactions with the healthcare system and will be less likely to be prompted for screening by a clinician. This suggests a need for additional approaches for outreach and engagement to encourage regular preventive visits and ensure timely screenings.

Elevance Health has several strategies in place to ensure members receive timely cancer screening. First, providers participating in value-based care programs are encouraged and supported in helping to ensure their patients receive timely screenings. Elevance Health has made tools available to providers such as making data available on provider portals about members who haven't received screenings. These tools can be used to facilitate patient reminders and strategies to make it easier to get screening.

In addition, Elevance Health's affiliated health plans may outreach directly to their members, as part of a care management relationship or through quality improvement initiatives. For instance, individuals who have missed a screening test might receive information on the importance of screening, via post-cards, emails, or text messaging, depending on members' selected modes for communication. Elevance Health partners with diagnostics suppliers to provide at home screening kits to members which may prompt completion of recommended screenings, although the use of at home screening tests was not included in this study.

Conclusion

By February 2023, the end of the third year after the start of the COVID-19 pandemic, in-person cancer screening rates are returning to pre-pandemic levels for breast, colorectal, and cervical cancers.

In this analysis over a four-year period, the findings suggest that health plan initiatives which engage providers and members have effectively contributed to the rebound in preventive cancer screenings that declined in the first year of the COVID-19 pandemic. Focused health plan and provider outreach, along with greater comfort levels with returning to the healthcare system, has prompted a return to regular screenings in 2022-2023.

Endnotes

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