

ISSUE BRIEF

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Improving Clinical Outcomes Through Access to Timely Cancer Screening: Evidence from Blue Cross and Blue Shield Members

EXECUTIVE SUMMARY

- Members who were diagnosed with breast or colorectal cancer via preventive screening were more likely to be diagnosed at an early stage and had lower post-diagnosis health care costs compared to those diagnosed via diagnostic testing.
- **Breast cancer:** 86.0% of members diagnosed with breast cancer via preventive screening were classified as early-stage vs. 77.3% of members diagnosed via diagnostic testing. Total per-member-per-month (PMPM) health care costs were lower for those diagnosed via preventive screening (9.7% lower over 90 days and 20.4% lower over 12 months).
- **Colorectal cancer:** 81.4% of members diagnosed via preventive screening were classified as early-stage vs. 66.8% of members diagnosed via diagnostic testing. Total PMPM health care costs were lower for those diagnosed via preventive screening (23.2% lower over 90 days and 33% lower over 12 months).
- There was significant variation in the proportion of cancer patients diagnosed through preventive screening by cancer type (56% of breast cancer patients and 46% of colorectal cancer patients) as well as variation by age, urbanicity, social vulnerability, indicating disparities in access to timely screening.

NATIONAL SNAPSHOT

- Breast and colorectal cancers are two of the most common cancers impacting U.S. adults and are becoming increasingly common among younger populations.
- In 2022, **231.5/100,000 U.S. women aged 40-64** were newly diagnosed with **breast cancer**.¹ Of those diagnosed, 22.2/100,000 died. According to the CDC, breast cancer incidence in women younger than 45 years increased by 1.1% per year from 2012-2022.⁵
- In 2022, 75.7/100,000 U.S. adults aged 50-64 (88.8/100,000 men and 62.9/100,000 women) were newly diagnosed with colorectal cancer. Of those diagnosed, 20.1/100,000 died (24.5/100,000 men and 15.9/100,000 women).² According to the American Cancer Society, colorectal cancer incidence in adults under 55 years increased by 1-2% per year from 2014-2019.⁹

INTRODUCTION

Cancer is the second leading cause of death in the United States and a major contributor to health care spending.^{2,3} It is estimated that 30-50% of cancers today could be mitigated or even prevented by having access to timely and affordable cancer screenings and vaccinations and by lifestyle modifications.⁴ Early cancer detection is key to reducing treatment costs and premature mortality.

Despite the demonstrated efficacy of screenings for the detection of breast cancer (mammograms) and colorectal cancer (colonoscopies, sigmoidoscopies, blood stool tests, and FIT tests) and the availability of many screenings with limited or no cost sharing in many health plans, many adults are not up to date. In particular, while mammography is estimated to reduce breast cancer mortality by more than 40%, screening rates among women are as low as 66% in some states.² Similarly, colonoscopy is estimated to reduce colorectal cancer mortality by 50%, but 60.4% of U.S. adults aged 45-64 years reported being up to date with colorectal cancer screening in 2023, lagging behind the national target of 72.8%.^{6,7} Beyond mortality reduction, diagnosing cancers at an early stage can have a large financial impact. For example, a recent study estimated the average per-patient costs in the 12 months after breast cancer diagnosis to be \$82,931 at Stage I vs. \$249,187 at Stage IV; for colorectal cancer, estimated costs were \$110,882 at Stage I vs. \$255,666 at Stage IV.⁸

The Blue Cross Blue Shield Association (BCBSA) seeks to increase the uptake of preventive cancer screenings — including those for breast and colorectal cancer — to improve members' chances of being diagnosed at an early stage, before cancers spread.

As the health insurer serving 1 in 3 Americans, Blue Cross and Blue Shield (BCBS) companies (Plans) strongly encourage their members to access preventive services to promote their continued well-being, reduce disparities and reduce costs for patients and the health care system. Plans have demonstrated their commitment to improving cancer screening rates. For example, since 2021, Capital Blue Cross partnered with WellSpan Health to screen over 4,600 women for breast cancer. Nearly 40 women received an early diagnosis because they were able to receive a mammogram.¹⁰ BCBS Illinois distributes free fecal immunochemical test (FIT) kits to increase colorectal screening rates, helping to distribute nearly 18,000 at-home screening test kits to targeted members in 2023.¹¹

As BCBS Plans work to improve cancer screening rates among their membership, readily available data on the uptake of preventive screening vs. diagnostic testing within key population subgroups, the rate of early-stage vs. late-stage diagnosis among those who received preventive screenings vs. diagnostic tests, and the associated costs can help plans prioritize their efforts. This issue brief presents the results of a retrospective analysis on BCBS members who were newly diagnosed with breast or colorectal cancer from 2022-2024.

RESEARCH APPROACH

To estimate the uptake and impact of preventive breast and colorectal cancer screenings in the BCBS population, Blue Health Intelligence® (BHI) analyzed medical and pharmacy claims from the BCBSA National Data Warehouse (NDW) accessed through the BHI National Data Repository (BDR), representing 71 BCBS plans across 50 states, the District of Columbia and the U.S. Virgin Islands. We identified members who were newly diagnosed with breast cancer (women aged 40-64) or colorectal cancer (adults aged 45-64) from 2022-2024, required continuous plan enrollment from 12 months pre-diagnosis to 90 days post-diagnosis, and excluded members with evidence of prior cancer or recent metastases. We classified each member's route to diagnosis — whether through preventive screening or diagnostic testing — based on the first qualifying screening/diagnostic procedure in the 90-day lookback window and any symptoms recorded within 30 days of the procedure (**Figure 1**; detailed algorithms in **Appendix A**).

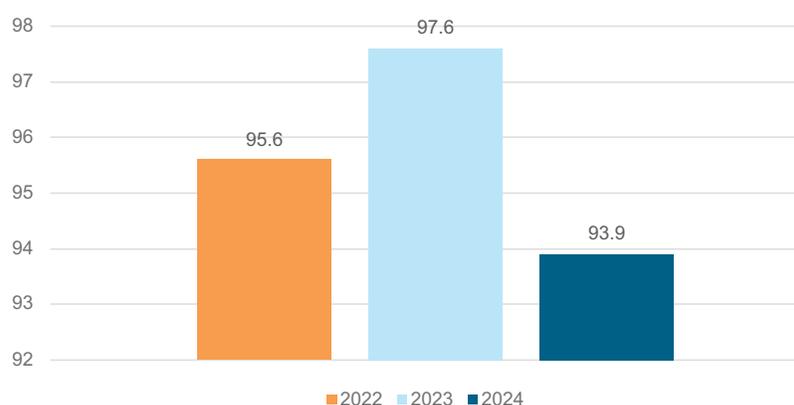
Breast Cancer Population	Colorectal Cancer Population
Women aged 40 to 64 who were newly diagnosed with breast cancer between January 1, 2022 and December 31, 2024. (N=172,070)	Adults aged 45 to 64 who were newly diagnosed with colorectal cancer between January 1, 2022 and December 31, 2024. (N=51,726)
Continuous health plan enrollment between 365 days prior to cancer diagnosis and 90 days following cancer diagnosis. (N=84,998)	Continuous health plan enrollment between 365 days prior to cancer diagnosis and 90 days following cancer diagnosis. (N=28,025)
Exclusion: Women with a history of breast cancer or any metastases recorded within the 12 months prior to the cancer diagnosis. (N=72,989)	Exclusion: Adults with a history of colorectal cancer or any metastases recorded within the 12 months prior to the cancer diagnosis. (N=23,497)
Diagnosed through a bilateral screening mammogram or a diagnostic test (mammogram, digital breast tomosynthesis, biopsy, ultrasound, MRI or other imaging) in the 90 days prior to the cancer diagnosis. (N=64,162)	Diagnosed through a screening or diagnostic test (colonoscopy, sigmoidoscopy, fecal occult blood test, FIT, Cologuard, barium enema or CT colonography) in the 90 days prior to the cancer diagnosis. (N=16,407)

We then described variation in screening and diagnostic testing rates by patient characteristics, compared early- and late-stage diagnosis rates by route to diagnosis, and summarized all-cause medical, pharmacy and total health care costs per-member-per-month (PMPM) over 90 days and 12 months following diagnosis (requiring ≥ 90 days and ≥ 365 days of continuous enrollment, respectively). To support fair comparisons across years, all costs were measured using a consistent claims run-out across the study period.

KEY FINDINGS: BREAST CANCER

From 2022-2024, 64,162 women aged 40-64 were newly diagnosed with breast cancer through a preventive screening or diagnostic test (93.9-97.6 out of 100,000 women each year; **Figure 2**).

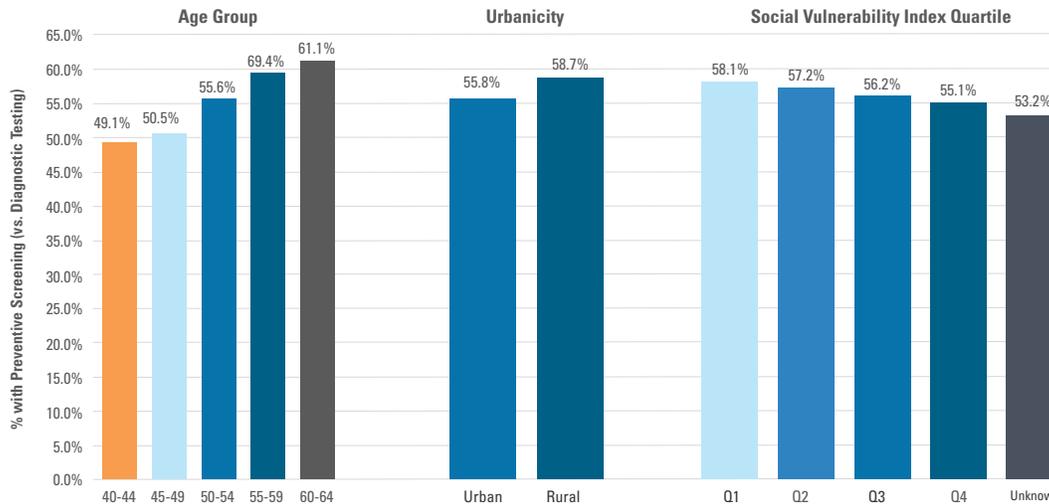
Figure 2. New breast cancer cases per 100,000 members at risk, 2022-2024



PATHWAYS TO BREAST CANCER DIAGNOSIS

Preventive mammograms were more common than diagnostic tests over the three-year period, with some variation based on age, urbanicity, social vulnerability¹² and insurance products. Overall, 56.2% of breast cancer patients were diagnosed via preventive mammogram (**Figure 3**). Higher rates of diagnosis through a preventive mammogram were observed among women aged 60-64 (61.1% vs. 49.1% of women aged 40-44), among those living in rural areas (58.7% vs. 55.8% of those in urban areas), and among those with low social vulnerability (58.1% in the lowest quartile vs. 55.1% in the highest quartile).

Figure 3. Rates of Malignant Breast Cancer Diagnosed through Preventive Screening vs. Diagnostic Testing by Select Patient Characteristics, 2022-2024

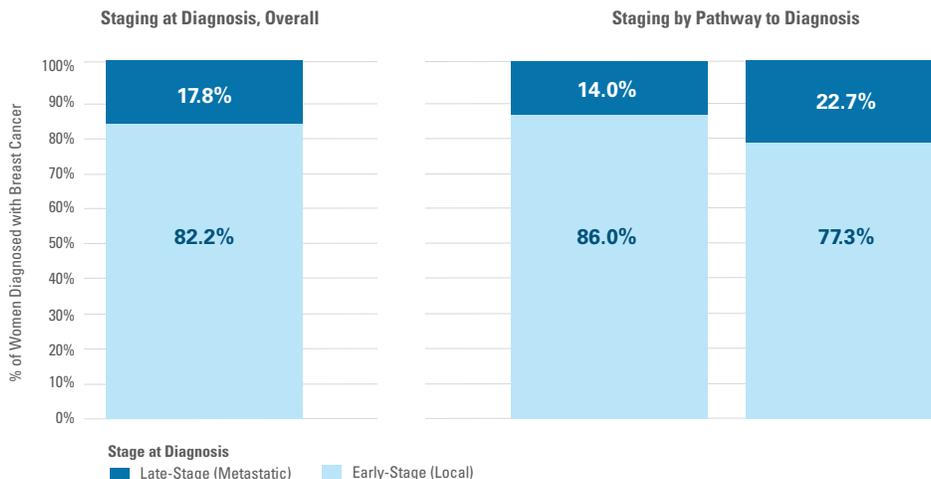


CLINICAL AND FINANCIAL IMPACTS OF PREVENTIVE BREAST CANCER SCREENING

Overall, 82.2% of members diagnosed with breast cancer were diagnosed at an early stage, and 17.8% were diagnosed at a late stage (**Figure 4**). Preventive screening among asymptomatic members was associated with an early-stage diagnosis in 86% of members and a late-stage diagnosis in 14%. In contrast, diagnostic testing triggered by breast cancer symptoms was associated with 77.3% receiving an early-stage diagnosis and 22.7% receiving a late-stage diagnosis.

Preventive mammograms and early-stage breast cancer diagnosis were associated with significant total health care, medical and pharmacy cost savings over 90 days and 12 months, owing to a reduced need for specialized treatments, high-cost pharmaceuticals and intense monitoring.

Figure 4. Breast Cancer Staging by Pathway to Diagnosis



Members who were diagnosed through a preventive mammogram had lower total health care costs PMPM (9.7% lower over 90 days and 20.4% lower over 12 months), when compared with those diagnosed through a diagnostic test (**Figures 5 and 6**). Pharmacy cost reductions were most dramatic (20.4% lower over 90 days and 30.3% lower over 12 months). This was, in part, driven by higher rates of early-stage diagnosis among those who received a preventive mammogram — these individuals had the lowest costs overall. Regardless of the pathway to breast cancer diagnosis, early-stage diagnosis was associated with significant total health care cost savings when compared with late-stage diagnosis (31.3% lower over 90 days and 48.8% over 12 months) (**Tables B3 and B4**). Preventive mammograms were associated with significant health care cost reductions among those diagnosed at an early stage (6.2% lower over 90 days and 14.1% lower over 12 months) and among those diagnosed at a late stage (7% lower over 90 days and 16% lower over 12 months).

Figure 5. Difference in All-Cause Health Care Costs in the First 90 Days for Breast Cancer Patients Diagnosed Through Preventive Screening vs. Diagnostic Testing

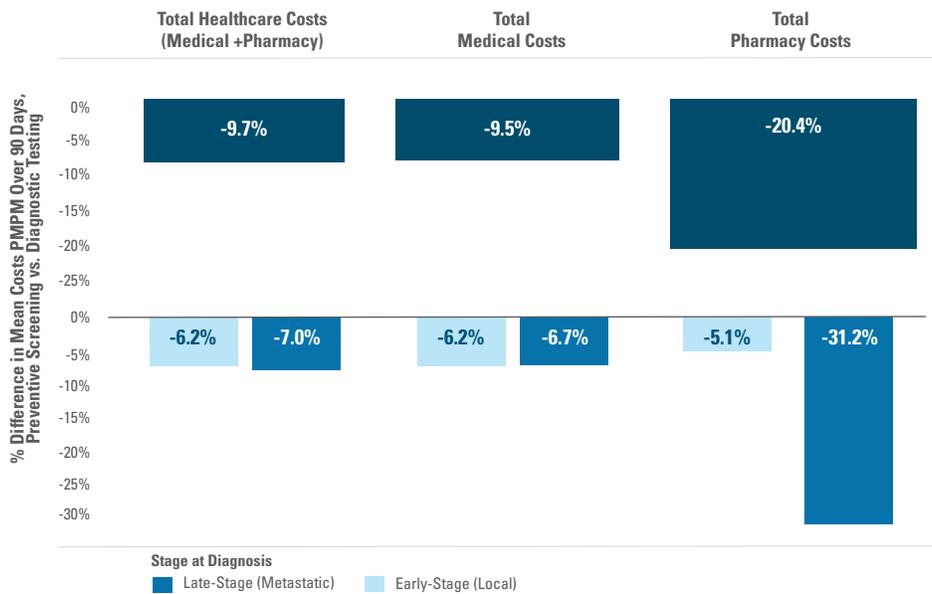
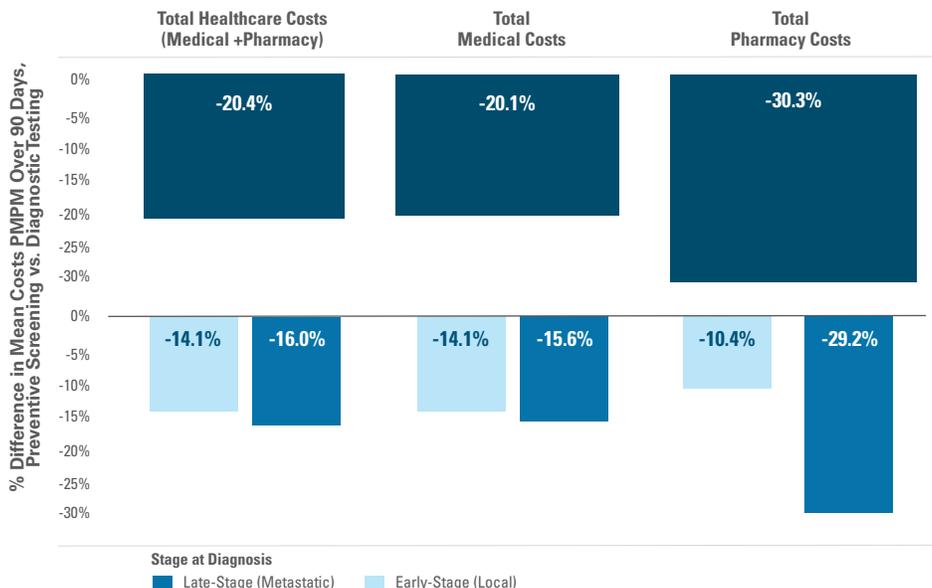


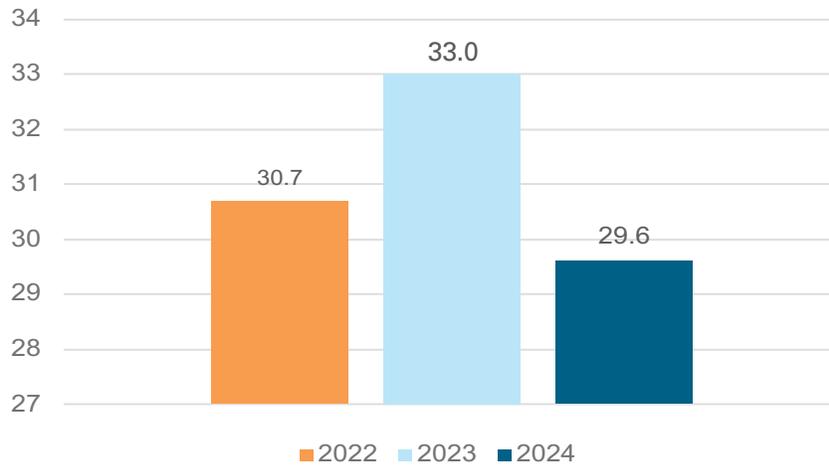
Figure 6. Difference in All-Cause Health Care Costs in the 12 Months Following Breast Cancer Diagnosis Among Patients Diagnosed Through Preventive Screening vs. Diagnostic Testing, 2022-2024



KEY FINDINGS: COLORECTAL CANCER

From 2022-2024, 16,407 adults aged 45-64 were newly diagnosed with colorectal cancer through a preventive screening or diagnostic test (29.6-33.0 out of 100,000 adults each year; **Figure 7**).

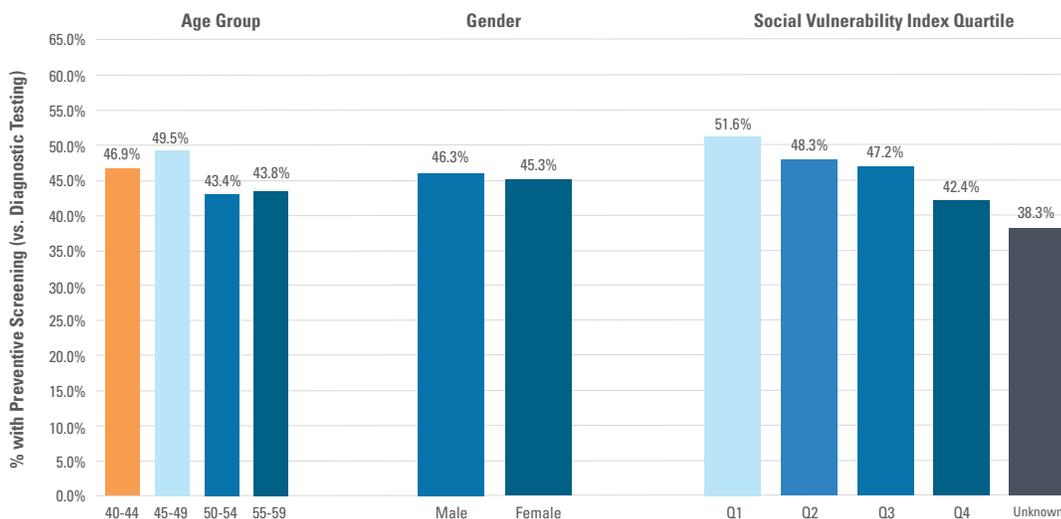
Figure 7. New colorectal cancer cases per 100,000 members at risk, 2022-2024



PATHWAYS TO COLORECTAL CANCER DIAGNOSIS

Diagnostic tests — including diagnostic colonoscopies or sigmoidoscopies as well as fecal occult blood tests, FIT tests, Cologuard, barium enemas or CT colonography performed when the patient is symptomatic — were the most common route to colorectal cancer diagnosis (54.1% of members across the three years). Rates of colorectal cancer diagnosis through preventive screenings were higher among individuals aged 50-54 (49.5% vs. 43.5-46.9% in other age groups) across the three years, and highest among individuals aged 45-49 in 2024 (50.7% vs. 42.7%-49.9% in other age groups) (**Figure 8**). Those with low social vulnerability also were more likely to be diagnosed through a preventive screening rather than through a diagnostic test (51.6% in the lowest quartile vs. 42.4% in the highest quartile). There were negligible differences in preventive screening rates by gender.

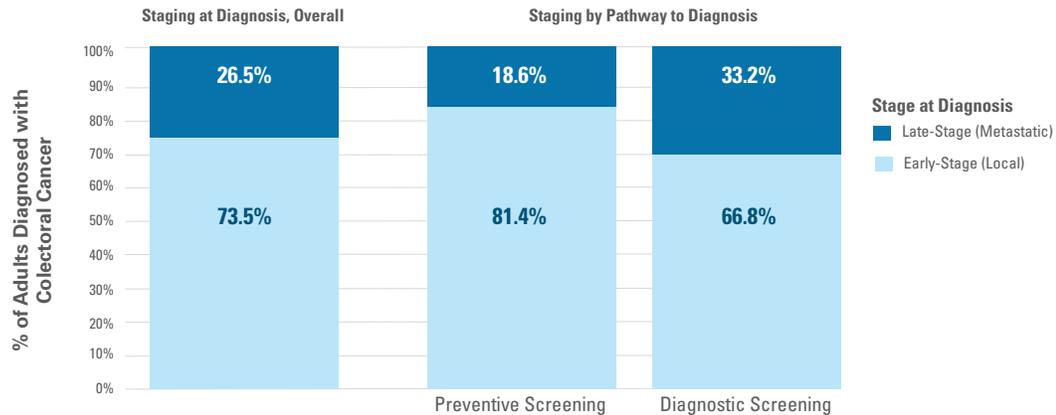
Figure 8. Colorectal Cancer Screening Rates by Select Patient Characteristics, 2022-2024



CLINICAL AND FINANCIAL IMPACTS OF PREVENTIVE COLORECTAL CANCER SCREENING

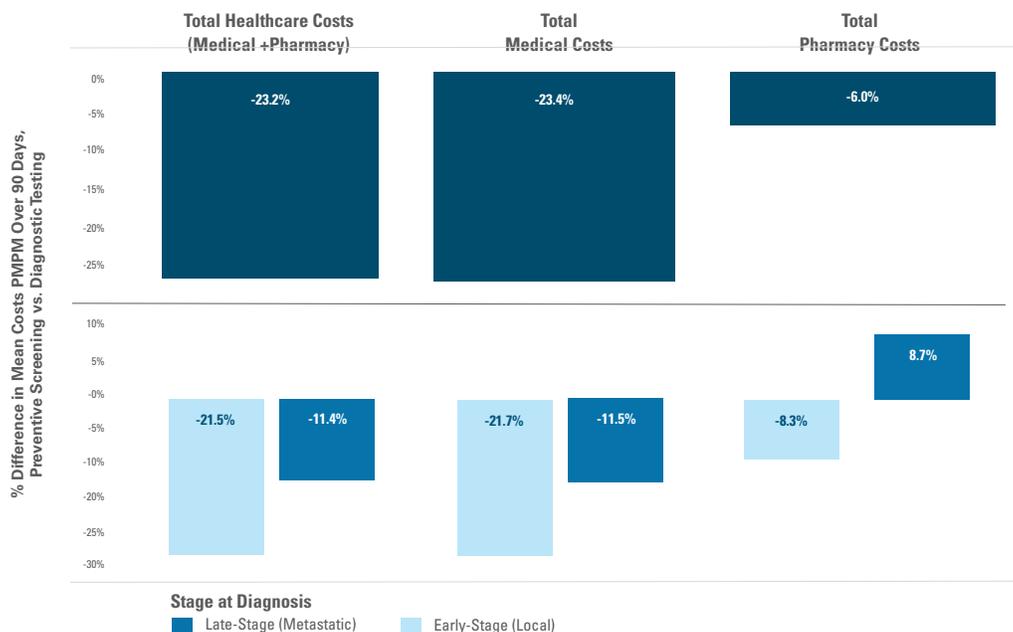
From 2022-2024, 73.5% of members diagnosed with colorectal cancer were diagnosed at an early stage, and 26.5% were diagnosed at a late stage with evidence of metastatic disease (**Figure 9**). Preventive colorectal cancer screening was associated with lower rates of late-stage diagnosis, with 18.6% of those who received a preventive screening diagnosed at a late stage, compared to 33.2% among those who received a diagnostic test.

Figure 9. Colorectal Cancer Staging by Pathway to Diagnosis, 2022-2024



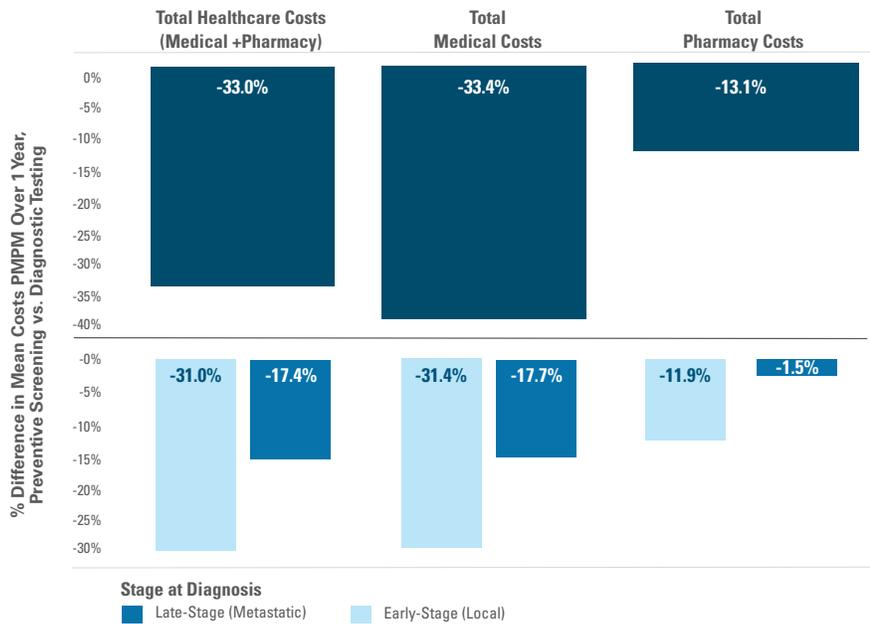
Preventive colorectal cancer screening and early colorectal cancer diagnosis were associated with significant total health care, medical, and to a lesser extent, pharmaceutical cost savings due in part to a reduced need for high-intensity medical and pharmaceutical interventions. Members who were diagnosed with colorectal cancer through a preventive screening had significantly lower total monthly health care costs (23.2% lower over 90 days and 33% lower over 12 months) compared to those who received a diagnostic test, primarily through significant medical cost savings (**Figures 10 and 11**). This was in part driven by higher rates of early-stage diagnosis among those who received a preventive screening. Those who were diagnosed at an early stage through either preventive screening or diagnostic testing had significantly lower total health care costs when compared to those diagnosed at a late stage (33.7% lower over 90 days and 45.9% lower over 12 months) (**Tables B7 and B8**).

Figure 10. Difference in All-Cause Health Care Costs in the First 90 Days for Colorectal Cancer Patients Diagnosed Through Preventive Screening vs. Diagnostic Testing, 2022-2024



In general, preventive colorectal cancer screening was associated with significant total health care cost savings among those diagnosed at an early stage (21.5% lower over 90 days and 31% lower over 12 months) and at a late stage (11.4% lower over 90 days and 17.4% lower over 12 months) through reductions in medical costs. As in the breast cancer population, the lowest health care costs corresponded to early-stage colorectal cancer diagnosed through preventive screening.

Figure 11. Difference in All-Cause Health Care Costs in the 12 Months Following Colorectal Cancer Diagnosis Among Patients Diagnosed Through Preventive Screening vs. Diagnostic Testing, 2022-2024



CONCLUSIONS

While most cancers were diagnosed at an early stage, access to timely preventive screenings provided patients with the best chance of early-stage diagnosis. The rate of early-stage breast cancer diagnosis was 82% overall, but 86% among members with a preventive screening; the rate of early-stage colorectal cancer diagnosis was 73% overall, but 81% among members with a preventive screening. Efforts to further expand access to and uptake of preventive screening can positively impact patient health outcomes and quality of life among patients diagnosed with cancer.

Appendix A: Methods

1. Identification of Breast and Colorectal Cancers

The following algorithms were used to identify breast and colorectal cancers as well as their stages.

STAGE	BREAST CANCER COHORT	COLORECTAL CANCER COHORT
Early (Local)	<ul style="list-style-type: none"> • Carcinoma in situ of breast (pre-invasive) (D05.0-D05.9) • Early-stage breast cancer (C50.011- C50.929; D05.x / C50x documented alone) • Secondary lymph node involvement (C77.0- C77.9) 	<ul style="list-style-type: none"> • Carcinoma in situ of colon (D01x) • Early-stage malignant neoplasms of colon and rectum (C18.0- C21; D01x / C18- C21x documented alone)
Late (Metastatic) – Local Cancer PLUS Metastatic/ Secondary Site Diagnoses	<ul style="list-style-type: none"> • Metastasis to other organs/sites (C78.0- C79.89) • Metastasis to other organs/sites (C78.0- C79.89) • Late stage/metastatic (C50.x + any C77.x / C78.x / C79.x codes in addition) 	<ul style="list-style-type: none"> • Secondary lymph node involvement (C77.0- C77.9) • Metastasis to other organs/sites (C78.0- C79.89) • Late stage/metastatic (C18.0-C21 or D01.x + any C77.x / C78.x / C79.x codes in addition)

2. Screening and Diagnostic Testing

The following algorithms were used to distinguish preventive screening from diagnostic testing.

	BREAST CANCER COHORT	COLORECTAL CANCER COHORT
Preventive Screening within 90 days prior to cancer diagnosis	<ul style="list-style-type: none"> • Screening mammography (ICD-10-CM Z12.31 or CPT/HCPCS CPT/HCPCS 77063, 77067, G0202) • NO symptoms within 30 days prior to (inclusive of) a screening 	<ul style="list-style-type: none"> • Screening colonoscopy or sigmoidoscopy (CPT 45330, 45331, 45332, 45333, 45334, 45335, 45337, 45338, 45340, 45341, 45342, 45379, 45380, 45381, 45382, 45384, 45385, 45386, 45388, 45389, 45390, 45391, 45392, 45393, 45398, 45378; HCPCS G0104, G0105, G0120, G0121, G0122) • Screening fecal occult blood test/FIT (CPT 82270, 82272, 82274; HCPCS G0327, G0328) • Screening Cologuard (CPT 81528) • Screening barium enema (CPT 74270, 74280; HCPCS G0106, G0120, G0122) • Screening CT Colonography (CPT 74263)

	BREAST CANCER COHORT	COLORECTAL CANCER COHORT
Diagnostic Testing within 90 days prior to cancer diagnosis	<ul style="list-style-type: none"> • Diagnostic Mammography (CPT 77065, 77066) • Diagnostic Digital Breast Tomosynthesis (CPT 77061, 77062; HCPCS G0279) • Breast biopsy (CPT 10004-10012, 10021, 19081-19086, 19100, 19101, 19120, 19125, 19126, 76942, 88302, 88304, 88305, 88307, 88309) • Diagnostic imaging during percutaneous device insertion (CPT 19281-19288) • Diagnostic ultrasound (CPT 76641 or 76642) • Diagnostic MRI (CPT 77046-77049 OR HCPCS C8903/C8906/C8908/C8937) • Screening mammography (ICD-10-CM Z12.31 or CPT/HCPCS CPT/HCPCS 77063, 77067, G0202) PLUS ICD-10-CM symptoms within 30 days prior to (inclusive of) a screening • Unspecified Lump in Breast (N63) • Mastodynia (N64.4) • Induration of Breast (N64.51) • Nipple Discharge (N64.52) • Retraction of Nipple (N64.53) 	<ul style="list-style-type: none"> • Diagnostic CT Colonography (CPT 74261, 74262), or <ul style="list-style-type: none"> – One of the following procedures: <ul style="list-style-type: none"> o Diagnostic colonoscopy or sigmoidoscopy (CPT 45330, 45331, 45332, 45333, 45334, 45335, 45337, 45338, 45340, 45341, 45342, 45379, 45380, 45381, 45382, 45384, 45385, 45386, 45388, 45389, 45390, 45391, 45392, 45393, 45398, 45378; HCPCS G0104, G0105, G0120, G0121, G0122) o Diagnostic fecal occult blood test/FIT (CPT 82270, 82272, 82274; HCPCS G0327, G0328) o Diagnostic Cologuard (CPT 81528) o Diagnostic barium enema (CPT 74270, 74280; HCPCS G0106, G0120, G0122) o Diagnostic CT Colonography (CPT 74261, 74262; CPT 74263 with 1+ symptoms in the 30 days prior) – PLUS one or more of the following symptoms in the 30 days prior: <ul style="list-style-type: none"> o Hemorrhage of anus and rectum (K62.5) o Bleeding/abnormal stool (K62.5, K92.1, K92.2, or R19.5) o Change in bowel habits (R19.4) o Abdominal pain/cramps/tenderness (R10.x) o Other fecal abnormalities (R19.5) o Anemia (D50.0, D50.9) o Abnormal weight loss (R63.4) o Other and unspecified intestinal obstruction (K56.6) o Diarrhea (R19.7) o Constipation (K59.0) o Fecal Incontinence/Incomplete Defecation/ Pain during bowel movements (R15.x)

3. Limitations

This study was descriptive in nature and traced the route to diagnosis among patients who had been diagnosed with cancer. As a result of this inclusion criterion, we make no statements about the yield of preventive screenings and diagnostic tests. Additionally, the metrics discussed in this brief are measures of association and do not account for potential confounders such as sociodemographic and insurance characteristics.

Appendix B: Supplementary Tables

Table B1: Characteristics of BCBS Breast Cancer Patients by Year and Method of Cancer Diagnosis

	2022-2024 Pooled					2022					2023					2024				
	Overall	Had Preventive Screening ^a	Had Diagnostic Test ^b	P-value ^c	Overall	Had Preventive Screening ^a	Had Diagnostic Test ^b	P-value ^c	Overall	Had Preventive Screening ^a	Had Diagnostic Test ^b	P-value ^c	Overall	Had Preventive Screening ^a	Had Diagnostic Test ^b	P-value ^c	Overall	Had Preventive Screening ^a	Had Diagnostic Test ^b	P-value ^c
Total Population	64,162	36,069 (56.2%)	28,093 (43.8%)		21,195	11,912 (56.2%)	9,283 (43.8%)		21,794	12,216 (56.1%)	9,578 (43.9%)		21,173	11,941 (56.4%)	9,232 (43.6%)					
Age Group				<0.001				<0.001				<0.001				<0.001				<0.001
40-44	8,162	4,010 (49.1%)	4,152 (50.9%)		2,544	1,252 (49.2%)	1,292 (50.8%)		2,810	1,374 (48.9%)	1,436 (51.1%)		2,808	1,384 (49.3%)	1,424 (50.7%)					
45-49	10,937	5,524 (50.5%)	5,413 (49.5%)		3,563	1,796 (50.4%)	1,767 (49.6%)		3,709	1,857 (50.1%)	1,852 (49.9%)		3,665	1,871 (51.1%)	1,794 (48.9%)					
50-54	13,569	7,539 (55.6%)	6,030 (44.4%)		4,543	2,478 (54.5%)	2,065 (45.5%)		4,626	2,580 (55.8%)	2,046 (44.2%)		4,400	2,481 (56.4%)	1,919 (43.6%)					
55-59	14,590	8,667 (59.4%)	5,923 (40.6%)		4,945	2,933 (59.3%)	2,012 (40.7%)		4,962	2,956 (59.6%)	2,006 (40.4%)		4,683	2,778 (59.3%)	1,905 (40.7%)					
60-64	16,904	10,329 (61.1%)	6,575 (38.9%)		5,600	3,453 (61.7%)	2,147 (38.3%)		5,687	3,449 (60.6%)	2,238 (39.4%)		5,617	3,427 (61.0%)	2,190 (39.0%)					
Urbanicity				<0.001				0.3				0.3				<0.001				<0.001
Urban	54,148	30,189 (55.8%)	23,959 (44.2%)		17,869	10,013 (56.0%)	7,856 (44.0%)		18,404	10,201 (55.4%)	8,203 (44.6%)		17,875	9,975 (55.8%)	7,900 (44.2%)					
Rural	10,008	5,877 (58.7%)	4,131 (41.3%)		3,325	1,899 (57.1%)	1,426 (42.9%)		3,387	2,014 (59.5%)	1,373 (40.5%)		3,296	1,964 (59.6%)	1,332 (40.4%)					
Unknown	N<11	N<11	N<11		N<11	N<11	N<11		N<11	N<11	N<11		N<11	N<11	N<11					
Social Vulnerability Index				<0.001				0.003				0.003				0.042				0.2
Q1 (least vulnerable)	4,866	2,826 (58.1%)	2,040 (41.9%)		1,603	942 (58.8%)	661 (41.2%)		1,670	983 (58.9%)	687 (41.1%)		1,593	901 (56.6%)	692 (43.4%)					
Q2	17,075	9,771 (57.2%)	7,304 (42.8%)		5,495	3,155 (57.4%)	2,340 (42.6%)		5,795	3,299 (56.9%)	2,496 (43.1%)		5,785	3,317 (57.3%)	2,468 (42.7%)					
Q3	20,577	11,555 (56.2%)	9,022 (43.8%)		6,829	3,946 (56.3%)	2,883 (43.7%)		6,918	3,837 (55.5%)	3,081 (44.5%)		6,830	3,872 (56.7%)	2,958 (43.3%)					
Q4 (most vulnerable)	21,289	11,728 (55.1%)	9,561 (44.9%)		7,126	3,896 (54.7%)	3,230 (45.3%)		7,289	4,030 (55.3%)	3,259 (44.7%)		6,874	3,802 (55.3%)	3,072 (44.7%)					
Unknown	355	189 (53.2%)	166 (46.8%)		142	73 (51.4%)	69 (48.6%)		122	67 (54.9%)	55 (45.1%)		91	49 (53.8%)	42 (46.2%)					

a Members were categorized as having a preventive screening if the first procedure they had within 90 days prior to the first breast cancer diagnosis was a preventive mammography.

b Members were categorized as having a diagnostic test if they the first procedure they had within 90 days prior to the first breast cancer diagnosis was a diagnostic mammogram, digital breast tomosynthesis, MRI, ultrasound, imaging during percutaneous device insertion, or breast biopsy. If a member had one or more symptoms in the 30 days prior to a mammogram procedure usually defined as preventive (i.e., ICD-10-CM Z12.31, CPT 77063/77067, or HCPCS G0202), the mammogram procedure was categorized as diagnostic rather than preventive.

c P-values are from Chi squared tests for categorical variables.

Table B2: Cancer Stage and Screening Rates of BCBS Members Diagnosed with Breast Cancer by Year and Method of Cancer Diagnosis

N (%) of Members	2022-2024 Pooled				2022				2023				2024			
	Overall	Had Preventive Screening ^a	Had Diagnostic Test ^b	P-value ^c	Overall	Had Preventive Screening ^a	Had Diagnostic Test ^b	P-value ^c	Overall	Had Preventive Screening ^a	Had Diagnostic Test ^b	P-value ^c	Overall	Had Preventive Screening ^a	Had Diagnostic Test ^b	P-value ^c
Total Members	64,162	36,069	28,083		21,195	11,912	9,283		21,794	12,216	9,578		21,173	11,941	9,232	
Stage of Breast Cancer (within 60 days of initial cancer diagnosis)				<0.001				<0.001				<0.001				<0.001
Early Stage	52,747 (82.2%)	31,018 (86.0%)	21,729 (77.3%)		17,477 (82.5%)	10,306 (86.5%)	7,171 (77.2%)		17,868 (82.0%)	10,493 (85.9%)	7,375 (77.0%)		17,402 (82.2%)	10,219 (85.6%)	7,183 (77.8%)	
Late Stage	11,415 (17.8%)	5,051 (14.0%)	6,364 (22.7%)		3,718 (17.5%)	1,606 (13.5%)	2,112 (22.8%)		3,926 (18.0%)	1,723 (14.1%)	2,203 (23.0%)		3,771 (17.8%)	1,722 (14.4%)	2,049 (22.2%)	

a Members were categorized as having a preventive screening if the first procedure they had within 90 days prior to the first breast cancer diagnosis was a preventive mammography.

b Members were categorized as having a diagnostic test if they the first procedure they had within 90 days prior to the first breast cancer diagnosis was a diagnostic mammogram, digital breast tomosynthesis, MRI, ultrasound, imaging during percutaneous device insertion, or breast biopsy. If a member had one or more symptoms in the 30 days prior to a mammogram procedure usually defined as preventive (i.e., ICD-10-CM Z12.31, CPT 77063/77067, or HCPCS G0202), the mammogram procedure was categorized as diagnostic rather than preventive.

c P-values are from Chi squared tests.

Table B3: Total All-Cause Health Care Cost (PMPM) of BCBS Members Diagnosed with Breast Cancer in the First 90 Days Following Diagnosis, by Year, Method and Stage of Cancer Diagnosis

Member Counts for 90-Day Follow-Up Cost Measures	Population	2022-2024 Pooled		2022		2023		2024	
		% Difference	P-Value	% Difference	P-Value	% Difference	P-Value	% Difference	P-Value
Population with ≥90 Days Medical Follow-Up	Overall		64,162		21,195		21,794		21,173
	Had Preventive Screening ^b		36,069		11,912		12,216		11,941
	Had Diagnostic Test ^c		28,093		9,283		9,578		9,232
Population with ≥90 Days Medical and Pharmacy Follow-Up	Overall		32,650		10,885		11,135		10,630
	Had Preventive Screening ^b		18,310		6,097		6,203		6,010
	Had Diagnostic Test ^c		14,340		4,788		4,932		4,620
90-Day Follow-Up Cost Measure	Comparison	2022-2024 Pooled		2022		2023		2024	
Mean Total All-Cause Health Care Costs PMPM, 90 Days Following Cancer Diagnosis	Any Stage, Preventive Screening vs. Diagnostic Testing	-9.7%	<0.001	-11.2%	<0.001	-8.6%	<0.001	-9.4%	<0.001
	Early Stage, Preventive Screening vs. Diagnostic Testing	-6.2%	<0.001	-6.9%	<0.001	-5.3%	<0.001	-6.5%	<0.001
	Late Stage, Preventive Screening vs. Diagnostic Testing	-7.0%	<0.001	-8.8%	<0.001	-5.4%	0.005	-7.0%	0.001
	Early Stage vs. Late Stage, Any Diagnosis Method	-31.3%	<0.001	-33.9%	<0.001	-30.2%	<0.001	-29.9%	<0.001
	Early Stage vs. Late Stage, Preventive Screening	-30.3%	<0.001	-32.3%	<0.001	-29.6%	<0.001	-29.1%	<0.001
	Early Stage vs. Late Stage, Diagnostic Testing	-30.9%	<0.001	-33.7%	<0.001	-29.7%	<0.001	-29.5%	<0.001
	Any Stage, Preventive Screening vs. Diagnostic Testing	-9.5%	<0.001	-11.1%	<0.001	-8.4%	<0.001	-9.3%	<0.001
	Early Stage, Preventive Screening vs. Diagnostic Testing	-6.2%	<0.001	-6.9%	<0.001	-5.3%	<0.001	-6.5%	<0.001
	Late Stage, Preventive Screening vs. Diagnostic Testing	-6.7%	<0.001	-8.6%	<0.001	-4.9%	0.013	-6.7%	0.001
	Early Stage vs. Late Stage, Any Diagnosis Method	-31.0%	<0.001	-33.5%	<0.001	-29.9%	<0.001	-29.6%	<0.001
Mean Total All-Cause Medical Costs PMPM, 90 Days Following Cancer Diagnosis	Early Stage vs. Late Stage, Preventive Screening	-30.2%	<0.001	-32.1%	<0.001	-29.5%	<0.001	-28.9%	<0.001
	Early Stage vs. Late Stage, Diagnostic Testing	-30.5%	<0.001	-33.2%	<0.001	-29.2%	<0.001	-29.1%	<0.001
	Any Stage, Preventive Screening vs. Diagnostic Testing	-20.4%	<0.001	-18.7%	0.011	-24.6%	0.000	-17.6%	0.009
	Early Stage, Preventive Screening vs. Diagnostic Testing	-5.1%	0.276	-0.6%	0.950	-7.5%	0.334	-6.1%	0.427
	Late Stage, Preventive Screening vs. Diagnostic Testing	-31.2%	<0.001	-25.8%	0.059	-41.9%	0.001	-24.6%	0.071
	Early Stage vs. Late Stage, Any Diagnosis Method	-53.9%	<0.001	-58.5%	<0.001	-52.1%	<0.001	-51.3%	<0.001
	Early Stage vs. Late Stage, Preventive Screening	-43.6%	<0.001	-50.4%	0.000	-35.5%	0.005	-44.2%	0.000
	Early Stage vs. Late Stage, Diagnostic Testing	-59.1%	<0.001	-63.0%	<0.001	-59.5%	<0.001	-55.2%	<0.001

a Cost differences are based on means reported in 2024 USD and inflated using the medical component of the Consumer Price Index. Follow-up for the 90-day cost metrics is measured from the cancer diagnosis date through 90 days after cancer diagnosis; members are required to have ≥90 days of continuous medical enrollment in the follow-up period (as well as ≥90 days of continuous pharmacy enrollment for the pharmacy cost measure). Total all-cause health care costs are capped at \$500,000 per member over the follow-up; when the cap applies, medical and pharmacy components are scaled proportionally to preserve the ratio of medical to pharmacy costs. All PMPMs are computed from capped totals. Total health care costs PMPM uses months with any active benefit (approximated as the maximum of medical or pharmacy enrollment months, truncated at 3 for the 90-day cost metrics); medical and pharmacy PMPMs use medical and pharmacy enrollment months, respectively. Because denominators may differ, Total PMPM ≠ Medical PMPM + Pharmacy PMPM.

b Members were categorized as having a preventive screening if the first procedure they had within 90 days prior to the first breast cancer diagnosis was a preventive mammography.

c Members were categorized as having a diagnostic test if they the first procedure they had within 90 days prior to the first breast cancer diagnosis was a diagnostic mammogram, digital breast tomosynthesis, MRI, ultrasound, imaging during percutaneous device insertion, or breast biopsy. If a member had one or more symptoms in the 30 days prior to a mammogram procedure usually defined as preventive (i.e., ICD-10-CM Z12.31, CPT 77063/77067, or HCPCS G0202), the mammogram procedure was categorized as diagnostic rather than preventive.

d P-values are from Student's t-test for means.

Table B4: Total All-Cause Health Care Cost (PMPM) of BCBS Members Diagnosed with Breast Cancer in the 12 Months Following Diagnosis, by Year, Method and Stage of Cancer Diagnosis

Member Counts for 12-Month Follow-Up Cost Measures	Population	2022-2024 Pooled		2022		2023		2024	
		% Difference	P-Value	% Difference	P-Value	% Difference	P-Value	% Difference	P-Value
Population with ≥ 12 Months Medical Follow-Up	Overall		44,837		18,865		19,231		6,741
	Had Preventive Screening ^b		25,217		10,642		10,791		3,784
	Had Diagnostic Test ^c		19,620		8,223		8,440		2,957
Population with ≥ 12 Months Medical and Pharmacy Follow-Up	Overall		22,187		9,436		9,484		3,267
	Had Preventive Screening ^b		12,428		5,297		5,299		1,832
	Had Diagnostic Test ^c		9,759		4,139		4,185		1,435
12-Month Follow-Up Cost Measure	Comparison	2022-2024 Pooled		2022		2023		2024	
Mean Total All-Cause Health Care Costs PMPM, 12 Months Following Cancer Diagnosis	Any Stage, Preventive Screening vs. Diagnostic Testing	-20.4%	<0.001	-23.1%	<0.001	-18.9%	<0.001	-17.1%	<0.001
	Early Stage, Preventive Screening vs. Diagnostic Testing	-14.1%	<0.001	-15.9%	<0.001	-12.7%	<0.001	-12.8%	<0.001
	Late Stage, Preventive Screening vs. Diagnostic Testing	-16.0%	<0.001	-18.9%	<0.001	-14.8%	<0.001	-11.2%	0.002
	Early Stage vs. Late Stage, Any Diagnosis Method	-48.8%	<0.001	-50.4%	<0.001	-48.0%	<0.001	-46.4%	<0.001
	Early Stage vs. Late Stage, Preventive Screening	-46.8%	<0.001	-47.8%	<0.001	-46.1%	<0.001	-46.0%	<0.001
	Early Stage vs. Late Stage, Diagnostic Testing	-48.0%	<0.001	-49.7%	<0.001	-47.4%	<0.001	-45.0%	<0.001
	Any Stage, Preventive Screening vs. Diagnostic Testing	-20.1%	<0.001	-22.9%	<0.001	-18.6%	<0.001	-16.7%	<0.001
	Early Stage, Preventive Screening vs. Diagnostic Testing	-14.1%	<0.001	-16.0%	<0.001	-12.7%	<0.001	-12.7%	<0.001
	Late Stage, Preventive Screening vs. Diagnostic Testing	-15.6%	<0.001	-18.5%	<0.001	-14.4%	<0.001	-10.7%	0.004
	Early Stage vs. Late Stage, Any Diagnosis Method	-47.8%	<0.001	-49.6%	<0.001	-47.0%	<0.001	-45.4%	<0.001
Mean Total All-Cause Medical Costs PMPM, 12 Months Following Cancer Diagnosis	Early Stage vs. Late Stage, Preventive Screening	-46.1%	<0.001	-47.1%	<0.001	-45.3%	<0.001	-45.2%	<0.001
	Early Stage vs. Late Stage, Diagnostic Testing	-47.0%	<0.001	-48.7%	<0.001	-46.3%	<0.001	-43.9%	<0.001
	Any Stage, Preventive Screening vs. Diagnostic Testing	-30.3%	<0.001	-31.7%	<0.001	-29.5%	<0.001	-29.1%	0.002
	Early Stage, Preventive Screening vs. Diagnostic Testing	-10.4%	0.037	-5.9%	0.441	-11.4%	0.146	-15.7%	0.176
	Late Stage, Preventive Screening vs. Diagnostic Testing	-29.2%	<0.001	-30.8%	0.002	-29.9%	0.002	-26.6%	0.091
	Early Stage vs. Late Stage, Any Diagnosis Method	-79.1%	<0.001	-74.6%	<0.001	-72.8%	<0.001	-70.1%	<0.001
	Early Stage vs. Late Stage, Preventive Screening	-68.5%	<0.001	-68.9%	<0.001	-66.3%	<0.001	-66.9%	<0.001
	Early Stage vs. Late Stage, Diagnostic Testing	-75.1%	<0.001	-77.1%	<0.001	-74.9%	<0.001	-71.2%	<0.001

a Cost differences are based on means reported in 2024 USD and inflated using the medical component of the Consumer Price Index. Follow-up for the 12-month cost metrics is measured from the cancer diagnosis date through 365 days after cancer diagnosis; members are required to have ≥ 365 days of continuous medical enrollment in the follow-up period (as well as ≥ 365 days of continuous pharmacy enrollment for the pharmacy cost measure). Total all-cause health care costs are capped at \$500,000 per member over the follow-up; when the cap applies, medical and pharmacy components are scaled proportionally to preserve the ratio of medical to pharmacy costs. All PMPMs are computed from capped totals. Total health care costs PMPM uses months with any active benefit (approximated as the maximum of medical or pharmacy enrollment months, truncated at 12 for the 12-month cost metrics); medical and pharmacy PMPMs use medical and pharmacy enrollment months, respectively. Because denominators may differ, Total PMPM ≠ Medical PMPM + Pharmacy PMPM.

b Members were categorized as having a preventive screening if the first procedure they had within 90 days prior to the first breast cancer diagnosis was a preventive mammography.

c Members were categorized as having a diagnostic test if they the first procedure they had within 90 days prior to the first breast cancer diagnosis was a diagnostic mammogram, digital breast tomosynthesis, MRI, ultrasound, imaging during percutaneous device insertion, or breast biopsy. If a member had one or more symptoms in the 30 days prior to a mammogram procedure usually defined as preventive (i.e., ICD-10-CM Z12.31, CPT 77063/77067, or HCPCS G0202), the mammogram procedure was categorized as diagnostic rather than preventive.

d P-values are from Student's t-test for means.

Table B5: Characteristics of BCBS Colorectal Cancer Patients by Year and Method of Cancer Diagnosis

Characteristic	2022-2024 Pooled					2022					2023					2024				
	Overall	Had Preventive Screening ^a	Had Diagnostic Test ^b	P-value ^c	Overall	Had Preventive Screening ^a	Had Diagnostic Test ^b	P-value ^c	Overall	Had Preventive Screening ^a	Had Diagnostic Test ^b	P-value ^c	Overall	Had Preventive Screening ^a	Had Diagnostic Test ^b	P-value ^c	Overall	Had Preventive Screening ^a	Had Diagnostic Test ^b	P-value ^c
Total Population	16,407	7,529 (45.9%)	8,878 (54.1%)		5,370	2,418 (45.0%)	2,952 (55.0%)		5,811	2,663 (45.8%)	3,148 (54.2%)		5,226	2,448 (46.8%)	2,778 (53.2%)					
Age Group				<0.001				0.008												
45-49	3,262	1,531 (46.9%)	1,731 (53.1%)		1,022	431 (42.2%)	591 (57.8%)		1,226	586 (47.8%)	640 (52.2%)		1,014	514 (50.7%)	500 (49.3%)					
50-54	4,515	2,235 (49.5%)	2,280 (50.5%)		1,571	761 (48.4%)	810 (51.6%)		1,536	772 (50.3%)	764 (49.7%)		1,408	702 (49.9%)	706 (50.1%)					
55-59	4,161	1,804 (43.4%)	2,357 (56.6%)		1,360	593 (43.6%)	767 (56.4%)		1,453	601 (41.4%)	852 (58.6%)		1,348	610 (45.3%)	738 (54.7%)					
60-64	4,469	1,959 (43.8%)	2,510 (56.2%)		1,417	633 (44.7%)	784 (55.3%)		1,596	704 (44.1%)	892 (55.9%)		1,456	622 (42.7%)	834 (57.3%)					
Gender				0.20				0.70												0.50
Male	9,289	4,302 (46.3%)	4,987 (53.7%)		2,974	1,348 (45.3%)	1,626 (54.7%)		3,226	1,494 (46.3%)	1,732 (53.7%)		3,089	1,460 (47.3%)	1,629 (52.7%)					
Female	7,116	3,227 (45.3%)	3,889 (54.7%)		2,395	1,070 (44.7%)	1,325 (55.3%)		2,584	1,169 (45.2%)	1,415 (54.8%)		2,137	988 (46.2%)	1,149 (53.8%)					
Urbanicity				0.12				0.3												0.6
Urban Core	13,029	6,031 (46.3%)	6,998 (53.7%)		4,309	1,964 (45.6%)	2,345 (54.4%)		4,626	2,146 (46.4%)	2,480 (53.6%)		4,094	1,921 (46.9%)	2,173 (53.1%)					
Rural	3,375	1,497 (44.4%)	1,878 (55.6%)		1,059	453 (42.8%)	606 (57.2%)		1,185	517 (43.6%)	668 (56.4%)		1,131	527 (46.6%)	604 (53.4%)					
Unknown	N<11	N<11	N<11		N<11	N<11	N<11		0 (NA%)	0 (NA%)	0 (NA%)		N<11		N<11					
Social Vulnerability Index				<0.001				<0.001												<0.001
Q1 (least vulnerable)	1,156	596 (51.6%)	560 (48.4%)		390	198 (50.8%)	192 (49.2%)		405	199 (49.1%)	206 (50.9%)		361	199 (55.1%)	162 (44.9%)					
Q2	3,942	1,854 (48.3%)	1,988 (51.7%)		1,256	572 (45.5%)	684 (54.5%)		1,350	655 (48.5%)	695 (51.5%)		1,236	627 (50.7%)	609 (49.3%)					
Q3	5,214	2,459 (47.2%)	2,755 (52.8%)		1,703	804 (47.2%)	899 (52.8%)		1,836	857 (46.7%)	979 (53.3%)		1,675	798 (47.6%)	877 (52.4%)					
Q4 (most vulnerable)	6,080	2,576 (42.4%)	3,504 (57.6%)		1,981	819 (41.3%)	1,162 (58.7%)		2,185	944 (43.2%)	1,241 (56.8%)		1,914	813 (42.5%)	1,101 (57.5%)					
Unknown	115	44 (38.3%)	71 (61.7%)		40	25 (62.5%)	15 (37.5%)		35	N<11	27 (77.1%)		40	11 (27.5%)	29 (72.5%)					

a Members were categorized as having a preventive screening if their first procedure within the 90 days prior to the first colorectal cancer diagnosis was a screening colonoscopy/sigmoidoscopy, screening fecal occult blood test/FIT, Cologuard, screening barium enema, or screening CT colonography that were not preceded by any symptoms. Note that numbers for subcomponent procedures may not sum to the total as members may have had multiple preventive procedures on the same day.

b Members were categorized as having a diagnostic test if their first procedure within the 90 days prior to the first colorectal cancer diagnosis was a diagnostic colonoscopy/sigmoidoscopy, diagnostic fecal occult blood test/FIT, diagnostic Cologuard, diagnostic barium enema, or diagnostic CT colonography. If a member had one or more symptoms in the 30 days prior to a colonoscopy/sigmoidoscopy, fecal occult blood test/FIT, Cologuard, barium enema, or CT colonography usually defined as preventive, the procedure was categorized as diagnostic rather than preventive. Note that numbers for subcomponent procedures may not sum to the total as members may have had multiple diagnostic procedures on the same day.

c P-values are from Student's t-test for means.

Table B6: Cancer Stage and Screening Rates of BCBS Members Diagnosed with Colorectal Cancer by Year and Method of Cancer Diagnosis

N (%) of Members	2022-2024 Pooled				2022				2023				2024			
	Overall	Had Preventive Screening ^a	Had Diagnostic Test ^b	P-value ^c	Overall	Had Preventive Screening ^a	Had Diagnostic Test ^b	P-value ^c	Overall	Had Preventive Screening ^a	Had Diagnostic Test ^b	P-value ^c	Overall	Had Preventive Screening ^a	Had Diagnostic Test ^b	P-value ^c
Total Members	16,407	7,529	8,878		5,370	2,418	2,952		5,811	2,663	3,148		5,226	2,448	2,778	
Stage of Colorectal Cancer (within 60 days of initial cancer diagnosis)				<0.001				<0.001				<0.001				<0.001
Early Stage	12,064 (73.5%)	6,130 (81.4%)	5,934 (66.8%)		3,947 (73.5%)	1,971 (81.5%)	1,976 (66.9%)		4,272 (73.5%)	2,178 (81.8%)	2,094 (66.5%)		3,845 (73.6%)	1,981 (80.9%)	1,864 (67.1%)	
Late Stage	4,343 (26.5%)	1,399 (18.6%)	2,944 (33.2%)		1,423 (26.5%)	447 (18.5%)	976 (33.1%)		1,539 (26.5%)	485 (18.2%)	1,054 (33.5%)		1,381 (26.4%)	467 (19.1%)	914 (32.9%)	

a Members were categorized as having a preventive screening if their first procedure within the 90 days prior to the first colorectal cancer diagnosis was a screening colonoscopy/sigmoidoscopy, screening fecal occult blood test/FIT, ColoGuard, screening barium enema, or screening CT colonography that were not preceded by any symptoms.

b Members were categorized as having a diagnostic test if their first procedure within the 90 days prior to the first colorectal cancer diagnosis was a diagnostic colonoscopy/sigmoidoscopy, diagnostic fecal occult blood test/FIT, diagnostic ColoGuard, diagnostic barium enema, or diagnostic CT colonography. If a member had one or more symptoms in the 30 days prior to a colonoscopy/sigmoidoscopy, fecal occult blood test/FIT, ColoGuard, or CT colonography usually defined as preventive, the procedure was categorized as diagnostic rather than preventive.

c P-values are from Chi squared tests.

Table B7: Total All-Cause Health Care Cost (PMPM) of BCBS Members Diagnosed with Colorectal Cancer in the First 90 Days Following Diagnosis, by Year, Method and Stage of Cancer Diagnosis

Member Counts for 90-Day Follow-Up Cost Measures	Population	2022-2024 Pooled		2022		2023		2024	
		% Difference	P-Value	% Difference	P-Value	% Difference	P-Value	% Difference	P-Value
Population with ≥90 Days Medical Follow-Up	Overall		16,407		5,370		5,811		5,226
	Had Preventive Screening ^b		7,529		2,418		2,663		2,448
	Had Diagnostic Test ^c		8,878		2,952		3,148		2,778
	Overall		8,500		2,764		3,037		2,699
	Had Preventive Screening ^b		3,883		1,244		1,381		1,258
	Had Diagnostic Test ^c		4,617		1,520		1,656		1,441
90-Day Follow-Up Cost Measure	Comparison	2022-2024 Pooled		2022		2023		2024	
Mean Total All-Cause Health Care Costs PMPM, 90 Days Following Cancer Diagnosis	Any Stage, Preventive Screening vs. Diagnostic Testing	-23.2%	<0.001	-23.7%	<0.001	-23.1%	<0.001	-23.0%	<0.001
	Early Stage, Preventive Screening vs. Diagnostic Testing	-21.5%	<0.001	-22.2%	<0.001	-20.6%	<0.001	-22.1%	<0.001
	Late Stage, Preventive Screening vs. Diagnostic Testing	-11.4%	<0.001	-10.0%	0.004	-12.7%	<0.001	-11.5%	0.001
	Early Stage vs. Late Stage, Any Diagnosis Method	-33.7%	<0.001	-35.9%	<0.001	-33.4%	<0.001	-31.8%	<0.001
	Early Stage vs. Late Stage, Preventive Screening	-36.5%	<0.001	-39.7%	<0.001	-35.1%	<0.001	-34.8%	<0.001
	Early Stage vs. Late Stage, Diagnostic Testing	-28.3%	<0.001	-30.2%	<0.001	-28.6%	<0.001	-26.0%	<0.001
Mean Total All-Cause Medical Costs PMPM, 90 Days Following Cancer Diagnosis	Any Stage, Preventive Screening vs. Diagnostic Testing	-23.4%	<0.001	-23.9%	<0.001	-23.1%	<0.001	-23.3%	<0.001
	Early Stage, Preventive Screening vs. Diagnostic Testing	-21.7%	<0.001	-22.5%	<0.001	-20.6%	<0.001	-22.3%	<0.001
	Late Stage, Preventive Screening vs. Diagnostic Testing	-11.5%	<0.001	-10.1%	0.003	-12.7%	<0.001	-11.9%	0.001
	Early Stage vs. Late Stage, Any Diagnosis Method	-33.9%	<0.001	-36.2%	<0.001	-33.7%	<0.001	-31.8%	<0.001
	Early Stage vs. Late Stage, Preventive Screening	-36.7%	<0.001	-39.9%	<0.001	-35.3%	<0.001	-34.8%	<0.001
	Early Stage vs. Late Stage, Diagnostic Testing	-28.5%	<0.001	-30.4%	<0.001	-28.9%	<0.001	-26.1%	<0.001
Mean Total All-Cause Pharmacy Costs PMPM, 90 Days Following Cancer Diagnosis	Any Stage, Preventive Screening vs. Diagnostic Testing	-6.0%	0.331	-2.9%	0.804	-16.5%	0.097	4.4%	0.662
	Early Stage, Preventive Screening vs. Diagnostic Testing	-8.3%	0.268	-3.5%	0.809	-19.0%	0.117	1.4%	0.904
	Late Stage, Preventive Screening vs. Diagnostic Testing	8.7%	0.408	6.1%	0.737	-7.1%	0.640	27.3%	0.192
	Early Stage vs. Late Stage, Any Diagnosis Method	-13.3%	0.028	-11.2%	0.318	-4.3%	0.674	-24.2%	0.014
	Early Stage vs. Late Stage, Preventive Screening	-21.5%	0.016	-16.3%	0.306	-9.8%	0.520	-34.4%	0.021
	Early Stage vs. Late Stage, Diagnostic Testing	-7.0%	0.389	-7.9%	0.598	3.4%	0.804	-17.7%	0.179

a Cost differences are based on means reported in 2024 USD and inflated using the medical component of the Consumer Price Index. Follow-up for the 90-day cost metrics is measured from the cancer diagnosis date through 90 days after cancer diagnosis; members are required to have ≥90 days of continuous medical enrollment in the follow-up period (as well as ≥90 days of continuous pharmacy enrollment for the pharmacy cost measure). Total all-cause health care costs are capped at \$500,000 per member over the follow-up; when the cap applies, medical and pharmacy components are scaled proportionally to preserve the ratio of medical to pharmacy costs. All PMPMs are computed from capped totals. Total health care costs PMPM uses months with any active benefit (approximated as the maximum of medical or pharmacy enrollment months, truncated at 3 for the 90-day cost metrics); medical and pharmacy PMPMs use medical and pharmacy enrollment months, respectively. Because denominators may differ, Total PMPM ≠ Medical PMPM + Pharmacy PMPM

b Members were categorized as having a preventive screening if their first procedure within the 90 days prior to the first colorectal cancer diagnosis was a screening colonoscopy/sigmoidoscopy, screening fecal occult blood test/FIT, Cologuard, screening barium enema, or screening CT colonography that were not preceded by any symptoms.

c Members were categorized as having a diagnostic test if their first procedure within the 90 days prior to the first colorectal cancer diagnosis was a diagnostic colonoscopy/sigmoidoscopy, diagnostic fecal occult blood test/FIT, diagnostic Cologuard, diagnostic barium enema, or diagnostic CT colonography. If a member had one or more symptoms in the 30 days prior to a colonoscopy/sigmoidoscopy, fecal occult blood test/FIT, Cologuard, barium enema, or CT colonography usually defined as preventive, the procedure was categorized as diagnostic rather than preventive.

d P-values are from Student's t-test for means.

Table B8: Total All-Cause Health Care Cost (PMPM) of BCBS Members Diagnosed with Colorectal Cancer in the 12 Months Following Diagnosis, by Year, Method and Stage of Cancer Diagnosis

Member Counts for 12-Month Follow-Up Cost Measures	Population	2022-2024 Pooled			2022			2023			2024		
		% Difference	P-Value		% Difference	P-Value		% Difference	P-Value		% Difference	P-Value	
Population with ≥12 Months Medical Follow-Up	Overall		11,256		4,613		4,978		1,665				
	Had Preventive Screening ^b		5,215		2,130		2,304		781				
	Had Diagnostic Test ^c		6,041		2,483		2,674		884				
	Overall		5,667		2,315		2,528		824				
	Had Preventive Screening ^b		2,610		1,072		1,151		387				
	Had Diagnostic Test ^c		3,057		1,243		1,377		437				
12-Month Follow-Up Cost Measure	Comparison	2022-2024 Pooled			2022			2023			2024		
Mean Total All-Cause Health Care Costs PMPM, 12 Months Following Cancer Diagnosis	Any Stage, Preventive Screening vs. Diagnostic Testing	-33.0%	<0.001	-35.4%	<0.001	-32.7%	<0.001	-27.5%	<0.001				
	Early Stage, Preventive Screening vs. Diagnostic Testing	-31.0%	<0.001	-34.3%	<0.001	-30.0%	<0.001	-24.7%	<0.001				
	Late Stage, Preventive Screening vs. Diagnostic Testing	-17.4%	<0.001	-18.2%	<0.001	-18.1%	<0.001	-13.3%	0.047				
	Early Stage vs. Late Stage, Any Diagnosis Method	-45.9%	<0.001	-46.3%	<0.001	-46.4%	<0.001	-43.3%	<0.001				
	Early Stage vs. Late Stage, Preventive Screening	-49.3%	<0.001	-50.8%	<0.001	-49.0%	<0.001	-46.0%	<0.001				
	Early Stage vs. Late Stage, Diagnostic Testing	-39.3%	<0.001	-38.8%	<0.001	-40.3%	<0.001	-37.8%	<0.001				
	Any Stage, Preventive Screening vs. Diagnostic Testing	-33.4%	<0.001	-36.0%	<0.001	-32.9%	<0.001	-27.9%	<0.001				
	Early Stage, Preventive Screening vs. Diagnostic Testing	-31.4%	<0.001	-35.0%	<0.001	-30.1%	<0.001	-25.3%	<0.001				
	Late Stage, Preventive Screening vs. Diagnostic Testing	-17.7%	<0.001	-18.5%	<0.001	-18.3%	<0.001	-13.7%	0.040				
	Early Stage vs. Late Stage, Any Diagnosis Method	-46.2%	<0.001	-46.7%	<0.001	-46.8%	<0.001	-43.3%	<0.001				
Mean Total All-Cause Medical Costs PMPM, 12 Months Following Cancer Diagnosis	Any Stage, Preventive Screening vs. Diagnostic Testing	-13.1%	0.073	-6.5%	0.603	-20.8%	0.045	-3.7%	0.825				
	Early Stage, Preventive Screening vs. Diagnostic Testing	-11.9%	0.198	-4.6%	0.774	-21.4%	0.098	6.7%	0.715				
	Late Stage, Preventive Screening vs. Diagnostic Testing	-1.5%	0.908	3.9%	0.846	-7.6%	0.681	2.5%	0.950				
	Early Stage vs. Late Stage, Any Diagnosis Method	-27.9%	0.000	-24.9%	0.034	-25.5%	0.022	-43.1%	0.015				
	Early Stage vs. Late Stage, Preventive Screening	-31.7%	0.006	-28.5%	0.100	-30.8%	0.060	-42.2%	0.226				
	Early Stage vs. Late Stage, Diagnostic Testing	-23.6%	0.014	-22.1%	0.156	-18.6%	0.211	-44.5%	0.026				

a Cost differences are based on means reported in 2024 USD and inflated using the medical component of the Consumer Price Index. Follow-up for the 12-month cost metrics is measured from the cancer diagnosis date through 365 days after cancer diagnosis; members are required to have ≥365 days of continuous medical enrollment in the follow-up period (as well as ≥365 days of continuous pharmacy enrollment for the pharmacy cost measure). Total all-cause health care costs are capped at \$500,000 per member over the follow-up; when the cap applies, medical and pharmacy components are scaled proportionally to preserve the ratio of medical to pharmacy costs. All PMPMs are computed from capped totals. Total health care costs PMPM uses months with any active benefit (approximated as the maximum of medical or pharmacy enrollment months, truncated at 12 for the 12-month cost metrics); medical and pharmacy PMPMs use medical and pharmacy enrollment months, respectively. Because denominators may differ, Total PMPM ≠ Medical PMPM + Pharmacy PMPM.

b Members were categorized as having a preventive screening if their first procedure within the 90 days prior to the first colorectal cancer diagnosis was a screening colonoscopy/sigmoidoscopy, screening fecal occult blood test/FIT, Cologuard, screening barium enema, or screening CT colonography that were not preceded by any symptoms

c Members were categorized as having a diagnostic test if their first procedure within the 90 days prior to the first colorectal cancer diagnosis was a diagnostic colonoscopy/sigmoidoscopy, diagnostic fecal occult blood test/FIT, diagnostic Cologuard, diagnostic barium enema, or diagnostic CT colonography. If a member had one or more symptoms in the 30 days prior to a colonoscopy/sigmoidoscopy, fecal occult blood test/FIT, Cologuard, barium enema, or CT colonography usually defined as preventive, the procedure was categorized as diagnostic rather than preventive

d P-values are from Student's t-test for means.

References

1. SEER Incidence Data, November 2024 Submission (1975-2022), SEER 21 registries. 2025 Jul 2 ed: Surveillance Research Program, National Cancer Institute; 2025.
2. Ma ZQ, Richardson LC. Cancer Screening Prevalence and Associated Factors Among US Adults. *Prev Chronic Dis.* Apr 21 2022;19:E22. doi:10.5888/pcd19.220063
3. He Y, Xu T, Fang J, et al. Trends in colorectal cancer screening in the United States, 2012 to 2020. *J Med Screen.* Sep 2023;30(3):125–133. doi:10.1177/09691413231174163
4. National Cancer Institute. 2025. <https://www.cancer.gov/about-cancer/understanding/what-is-cancer>
5. Breast Cancer Among Women Younger Than 45. Centers for Disease Control and Prevention. <https://www.cdc.gov/united-states-cancer-statistics/publications/breast-cancer-among-young-women.html>
6. Increase the proportion of adults who get screened for colorectal cancer — C-07: Data. Office of Disease Prevention and Health Promotion, U.S. Department of Health and Human Services. Accessed 2025 Dec 2, 2025. <https://odphp.health.gov/healthypeople/objectives-and-data/browse-objectives/cancer/increase-proportion-adults-who-get-screened-colorectal-cancer-c-07/data>
7. Singh S, Fujii L, Singh PP, Murad M, Singh H, Samadder J. Colonoscopy Is Associated with Decreased Risk of Mortality from Distal, but Not Proximal Colorectal Cancer: A Systematic Review and Meta-analysis: 2086. *Official journal of the American College of Gastroenterology | ACG.* 2013;108:S633.
8. McGarvey N, Gitlin M, Fadli E, Chung KC. Increased healthcare costs by later stage cancer diagnosis. *BMC Health Serv Res.* Sep 13 2022;22(1)(1):1155. doi:10.1186/s12913-022-08457-6
9. Siegel RL, Giaquinto AN, Jemal A. Cancer statistics, 2024. *CA Cancer J Clin.* Jan–Feb 2024;74(1):12–49. doi:10.3322/caac.21820
10. [Mammography matters: WellSpan drives life-saving breast cancer screenings to you](#)
11. [Distributing a Simple Tool to Help Save Lives | Blue Cross and Blue Shield of Illinois](#)
12. [The CDC/ATSDR Social Vulnerability Index is a geography-based index used to identify communities most vulnerable to threats to public health, based upon socioeconomic status, demographics, housing, and transportation measures. The first quartile represents the least vulnerable communities, while the fourth quartile represents the most vulnerable communities.](#)