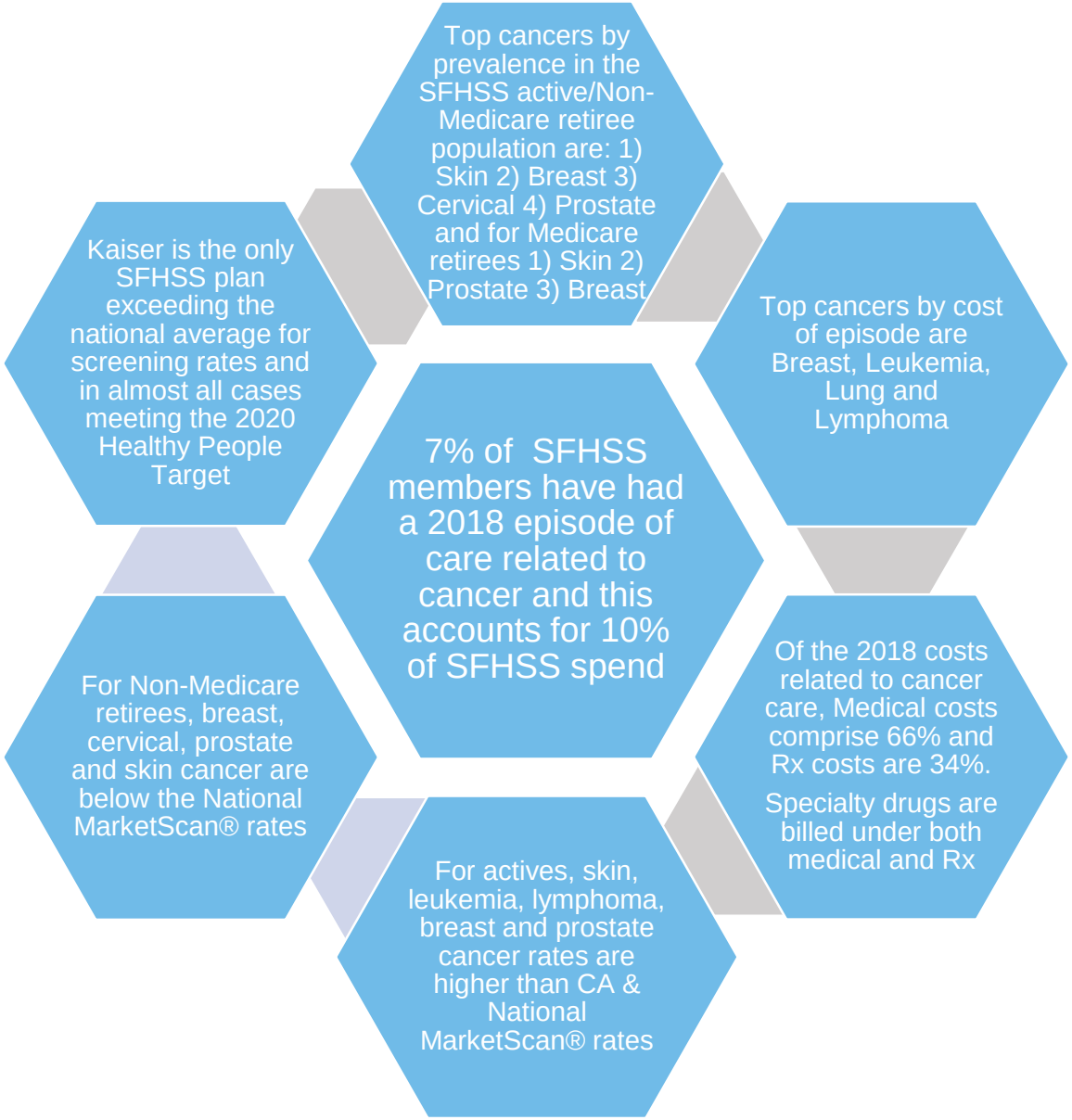
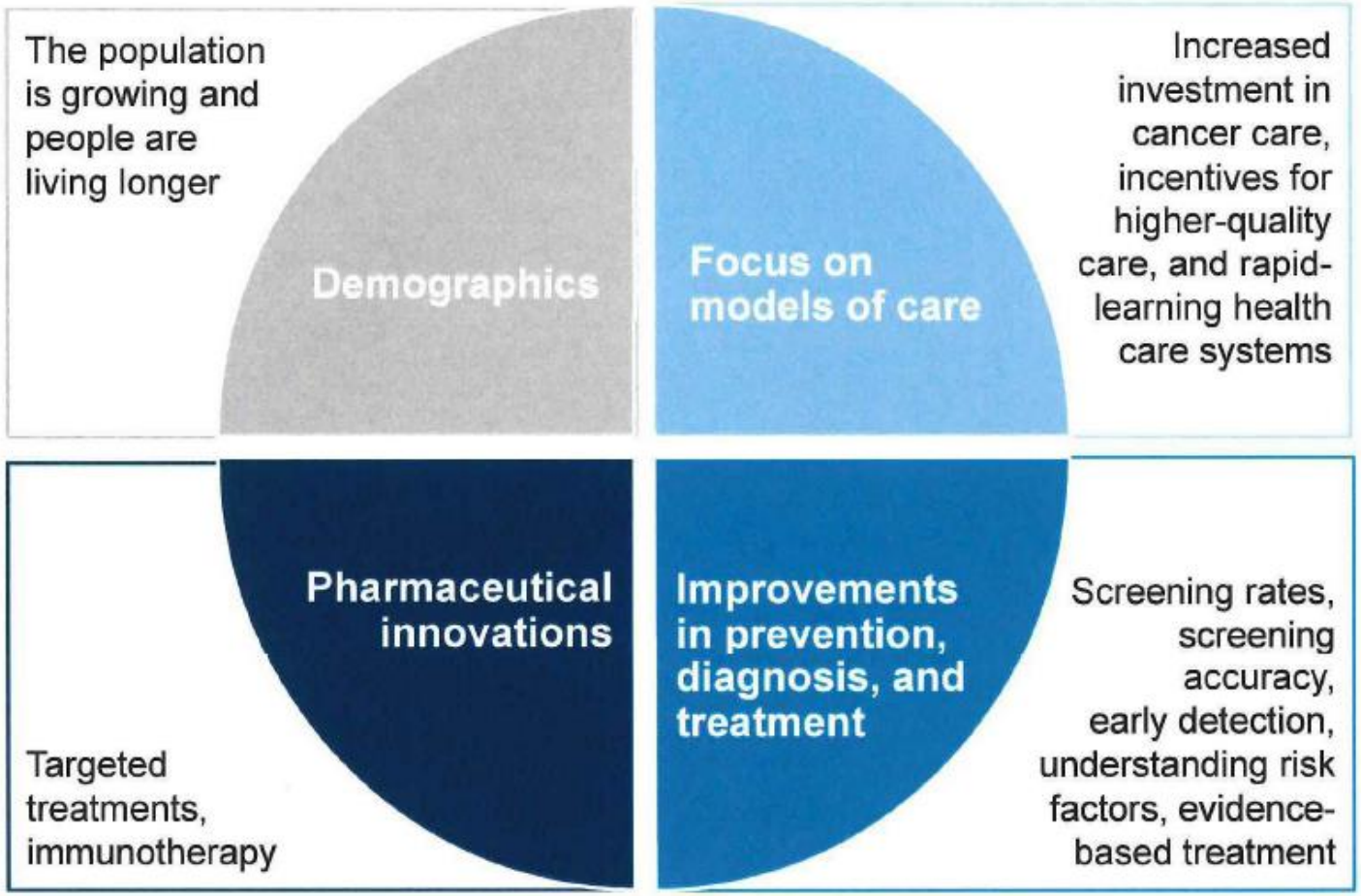
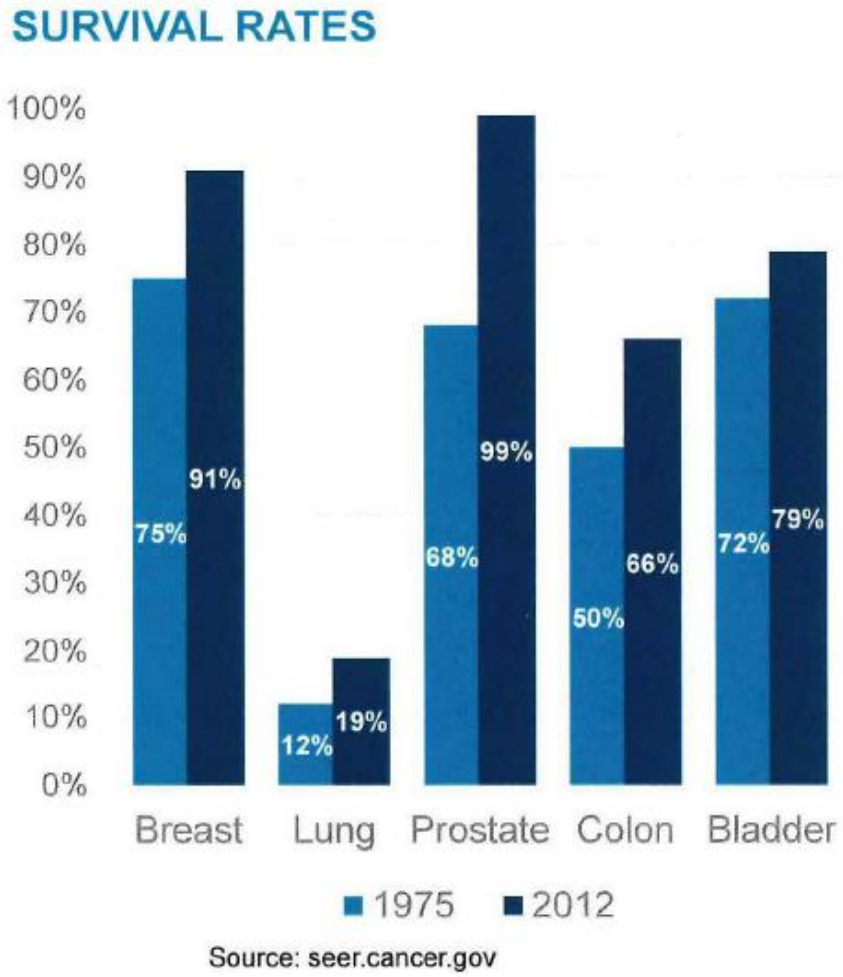
Cancer Overview

An Insight into the SFHSS population


Top cancers by prevalence in the SFHSS active/Non-Medicare retiree population are: 1) Skin 2) Breast 3) Cervical 4) Prostate and for Medicare retirees 1) Skin 2) Prostate 3) Breast
Top cancers by cost of episode are Breast, Leukemia, Lung and Lymphoma
Of the 2018 costs related to cancer care, Medical costs comprise 66% and Rx costs are 34%.
Specialty drugs are billed under both medical and Rx
For actives, skin, leukemia, lymphoma, breast and prostate cancer rates are higher than CA & National MarketScan® rates
For Non-Medicare retirees, breast, cervical, prostate and skin cancer are below the National MarketScan® rates
Kaiser is the only SFHSS plan exceeding the national average for screening rates and in almost all cases meeting the 2020 Healthy People Target
7% of SFHSS members have had a 2018 episode of care related to cancer and this accounts for 10% of SFHSS spend

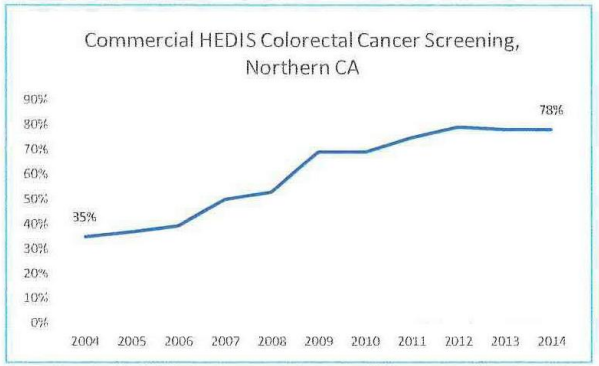
The cancer treatment landscape is evolving, and cancer patients are living longer





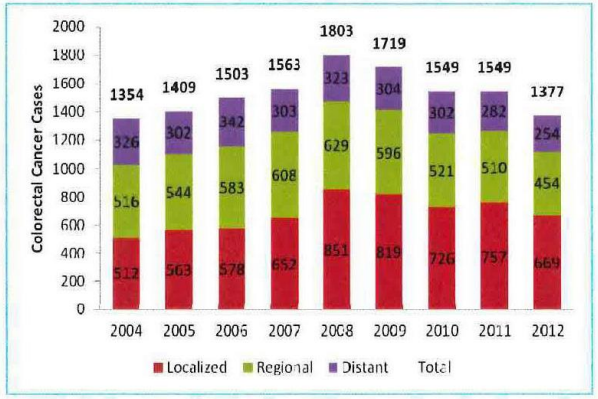
Ultimately, the best treatment is early detection.

WHEN OUR SCREENING RATES INCREASE



COSTS CAN BE AVOIDED

RISKS ARE CAUGHT BEFORE THEY BECOME PROBLEMS

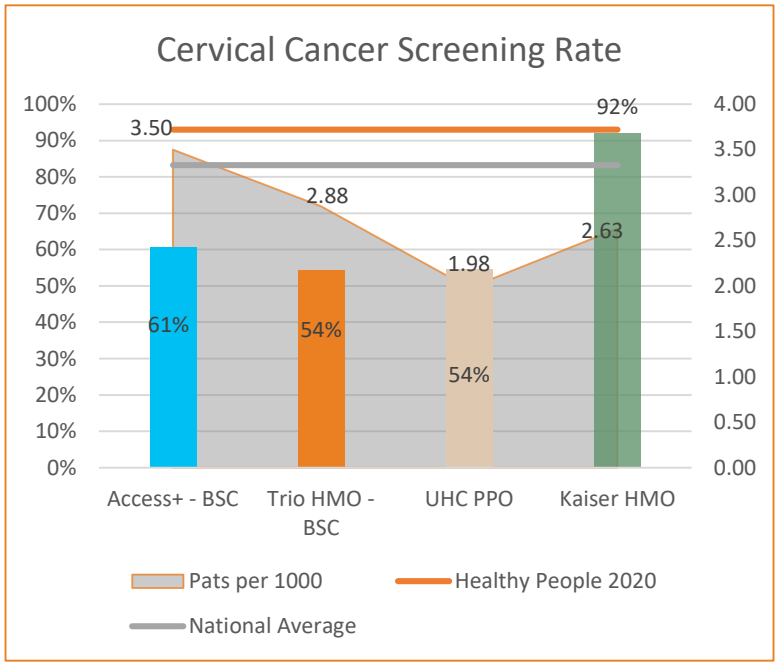


…And lives are saved

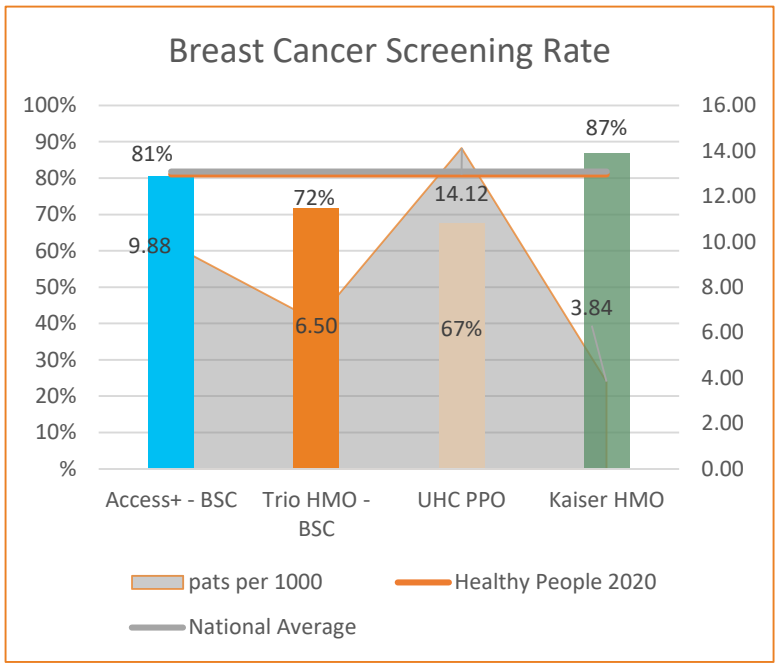
Source:
- costprojections.cancer.gov/expenditures.html

Columns are screening rates of each plan. Shaded area is the prevalence rate of each plan. Lines are screening benchmarks.

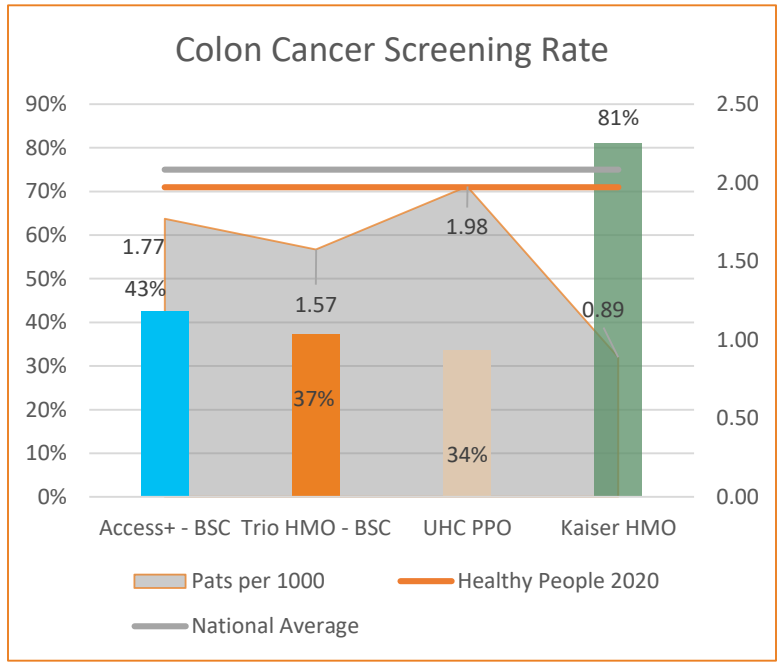
2018 SFHSS Preventive Screening Cancer and Prevalence Rate by Plans Active Employees and Non-Medicare Retirees



Only Kaiser is above the National Average for Cervical cancer screening



All plans are below the National Average target for Breast cancer screening rates. Trio HMO, first offered in 2018.

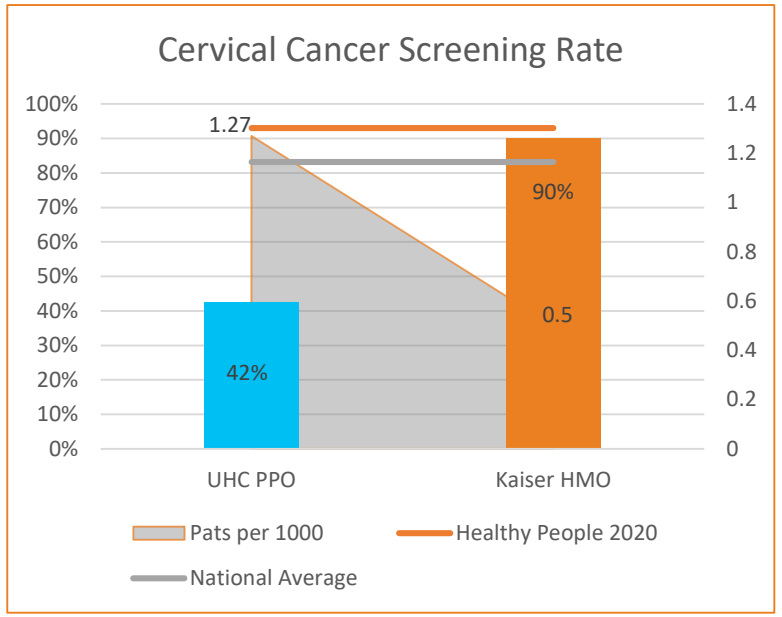


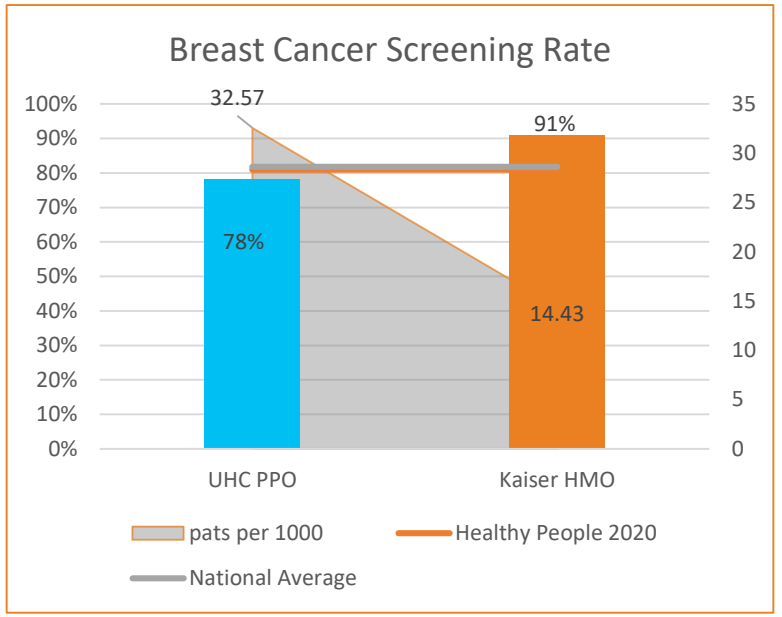
Kaiser Permanente is the only SFHSS plan higher than the National Average for Colon Cancer screening. Prevalence rates in KP are lower than all other plans

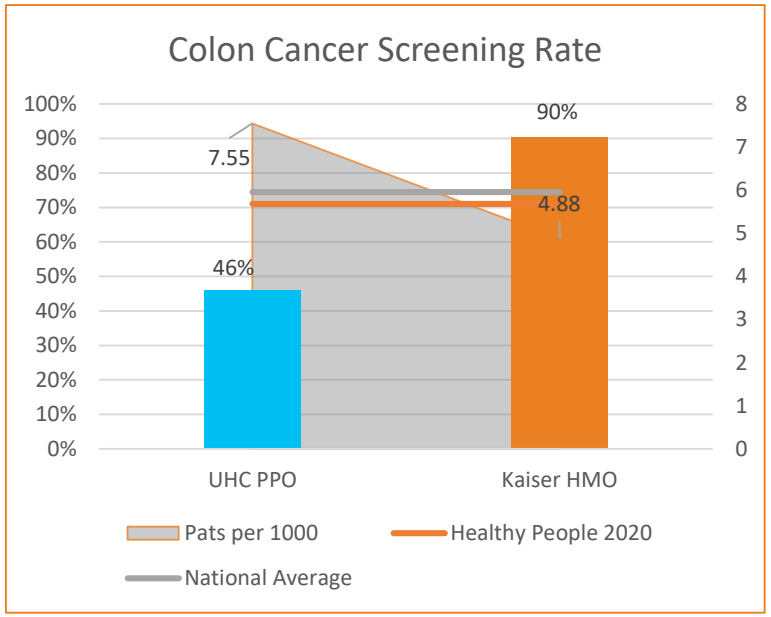
National Average is the 2016 HEDIS® scores (95th Percentile)

Columns are screening rates of each plan. Shaded area is the prevalence rate of each plan. Lines are screening benchmarks.

2018 SFHSS Preventive Screening Cancer and Prevalence Rate by Plans Medicare population







UHC Medicare members have more than twice the cervical patients per 1000 and less than half the cervical cancer screening rate in comparison to Kaiser

Overall SFHSS Medicare plans compare favorably with the National Average. UHC is slightly below the benchmark. The prevalence I the UHC population is more than twice that of Kaiser.

Kaiser is performing better than the National Average for Colon Screening. UHC screening rate is below the national average and has a higher prevalence rate compared to Kaiser

National Average is the 2016 HEDIS® scores (95th Percentile)

Top 15 Types of Cancer in SFHSS Population – by patient count

Active Employee & Non-Medicare Retiree Members	
Type of Cancer	**Patients**
Cancer - Skin	1,501
Cancer - Breast	615
Cancer - Cervical	291
Cancer - Prostate	175
Cancer - Lymphoma	128
Cancer - Colon	126
Cancer - Leukemia	102
Cancer - Renal/Urinary	100
Cancer - Endocrine, NEC	91
Cancer - Lung	89
Cancer - Nonspecified	88
Cancer - Uterine	60
Cancer - Oral Cavity/Mandible	54
Cancer - Ovarian	54
Cancer - Gastroint Ex Colon	46

Non-melanoma skin cancers, such as basal cell carcinoma and squamous cell carcinoma, are not likely to spread and may require little more than minor surgery or topical treatment. Melanoma, is responsible for most skin cancer deaths

7% of SFHSS members have had an episode of care related to cancer

Medicare Retiree Members	
Type of Cancer	**Patients**
Cancer - Skin	3,081
Cancer - Prostate	557
Cancer - Breast	537
Cancer - Renal/Urinary	232
Cancer - Lung	168
Cancer - Lymphoma	160
Cancer - Leukemia	150
Cancer - Colon	138
Cancer - Nonspecified	113
Cancer - Gastroint Ex Colon	64
Cancer - Uterine	57
Cancer - Oral Cavity/Mandible	49
Cancer - Hepatobil Ex Pancreas	40
Cancer - Endocrine, NEC	37
Cancer - Ovarian	28

SFHSS has 3,450 members with a cancer diagnosis in the Active / Non-Medicare Retiree population and 4,907 members in the Medicare population

Skin Cancers

Actives

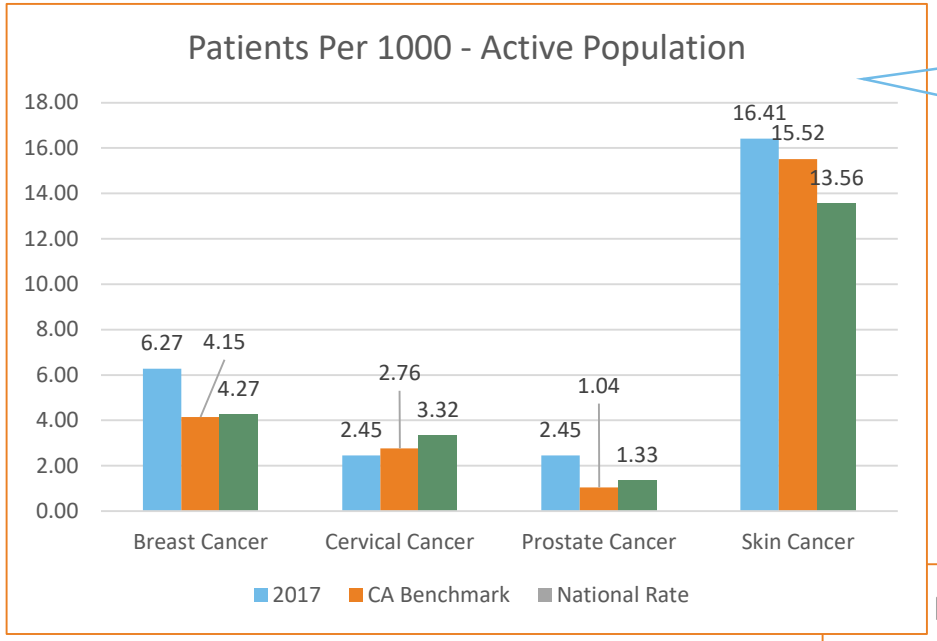
Skin Cancer Group	Patients
Neoplasm, Malignant: Carcinoma, Basal Cell	527
Neoplasm, Malignant: Carcinoma, Squamous Cell	2,801
Neoplasm, Malignant: Melanoma	144
Neoplasm, Malignant: Other Skin and Soft Tissue	1
Cancer - Skin Total	3,081

Medicare Retirees

Skin Cancer Group	Patients
Neoplasm, Malignant: Carcinoma, Basal Cell	239
Neoplasm, Malignant: Carcinoma, Squamous Cell	1,272
Neoplasm, Malignant: Melanoma	112
Neoplasm, Malignant: Other Skin and Soft Tissue	4
Cancer - Skin Total	1,501

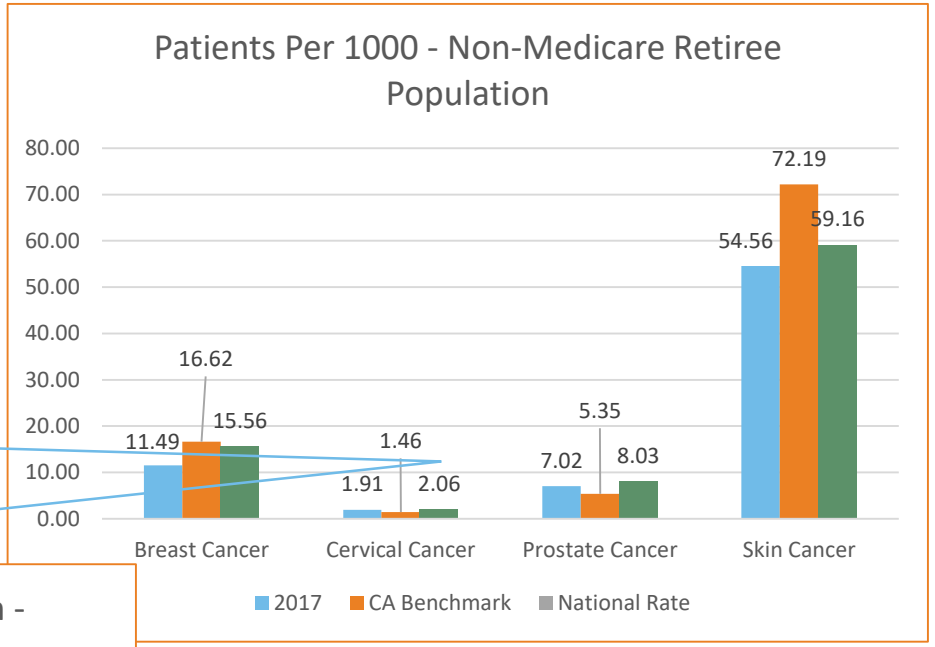
- Melanoma is a cancer that is both aggressive and tends to metastaize to other parts of the body
- Squamous Cell Cancers are slow growing and, although can be fatal, are identified and treated earlier in the disease process as it is often found on the sun-exposed areas of the face, lips, torso and limbs
- Skin cancer rate/1000 dipped over previous year but has the highest cancer prevalence in the SFHSS population and the U.S

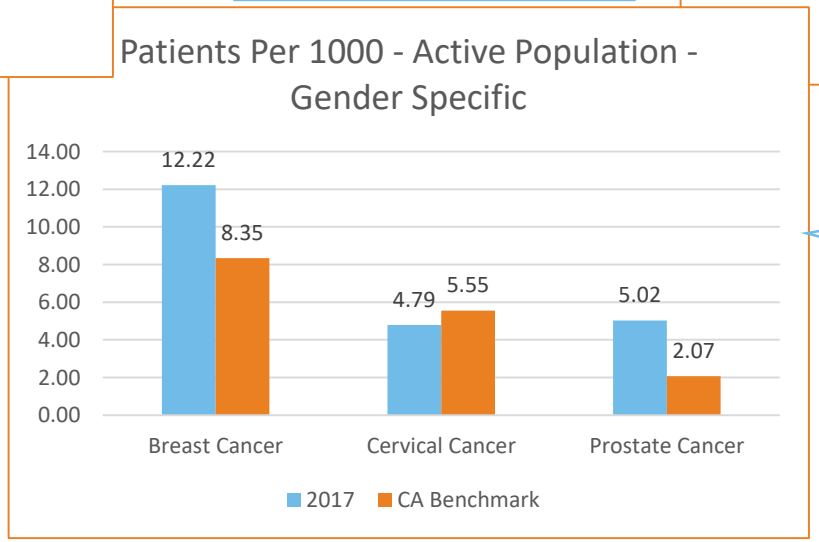
Rate per 1000 Comparison of SFHSS Top Cancers by Prevalence to IBM MarketScan® Benchmarks*



The SFHSS active population has a higher prevalence to California and National Rates for breast cancer, prostate cancer and skin cancer

The SFHSS Non-Medicare retiree compares favorably to national benchmarks but has higher cervical and prostate cancer prevalence rates compare to CA benchmarks

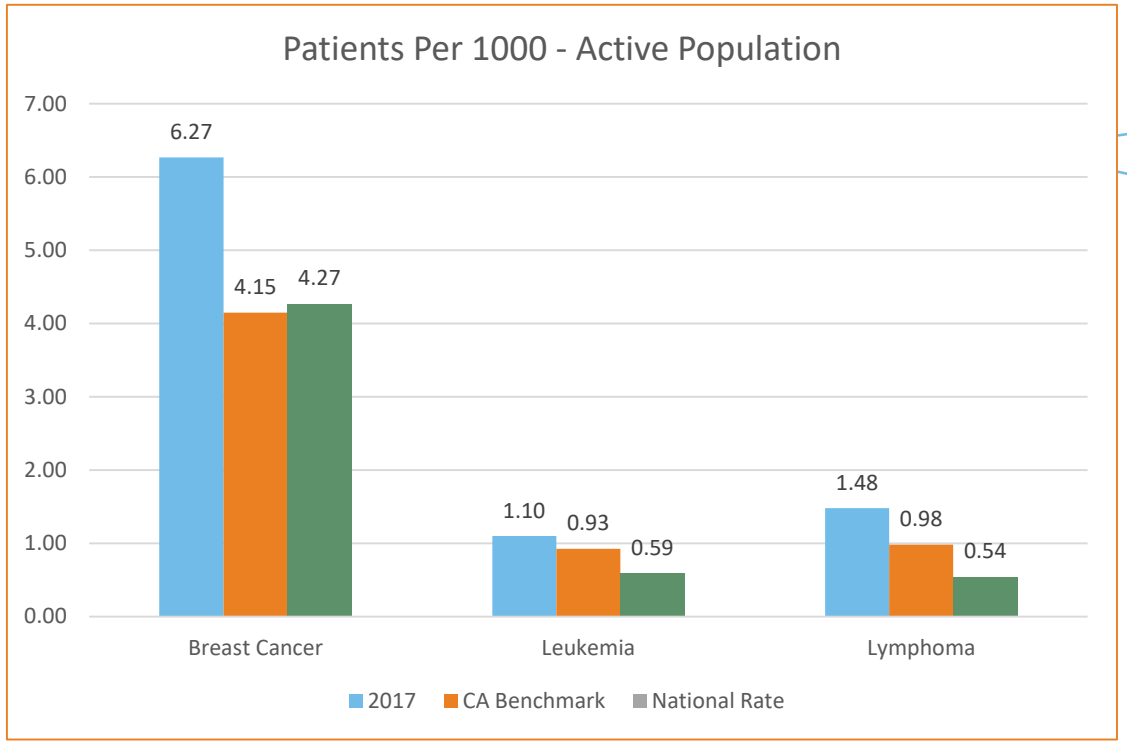




Comparisons to CA benchmarks are based on the gender specific to the cancer. While Breast Cancer can occur in both gendered, there was only 1 male case in 2017

*Benchmark data from IBM MarketScan® Database for 2017 Commercial Fee for Service experience and is not age / sex adjusted.
Prevalence rates reported by the CDC and ACS are considerably lower but utilize different methodologies such as, age adjusted to the 2000 US standard population, limited to invasive cancers, based on cases diagnosed 2011-2014, and other exclusions. For example CA Breast Cancer rate = 1.21 per 1000, Prostate = 1.012 per 1000.

Rate per 1000 Comparison of SFHSS Top Cancers by Cost to IBM MarketScan® Benchmarks*

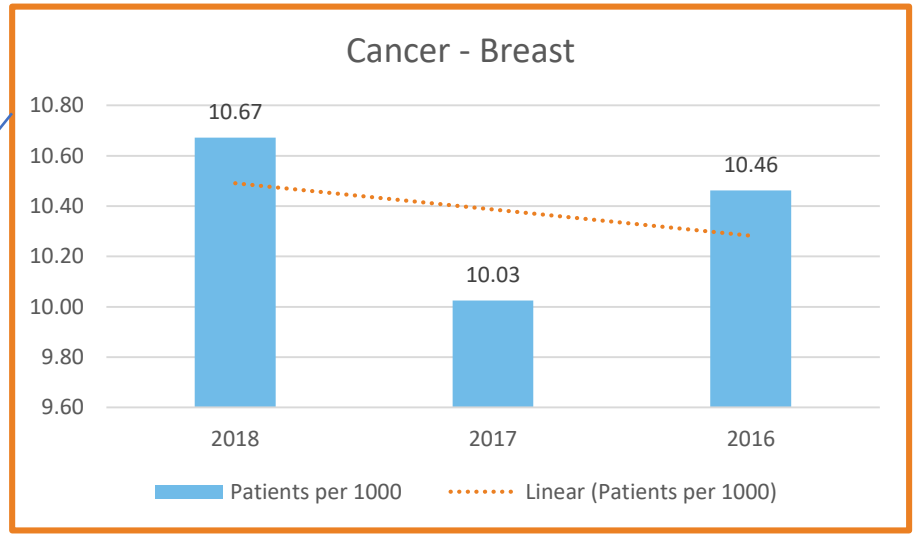


The SFHSS active population has a higher prevalence to California and National Rates for breast cancer, Leukemia and Lymphoma, which are SHFSS' costliest cancers

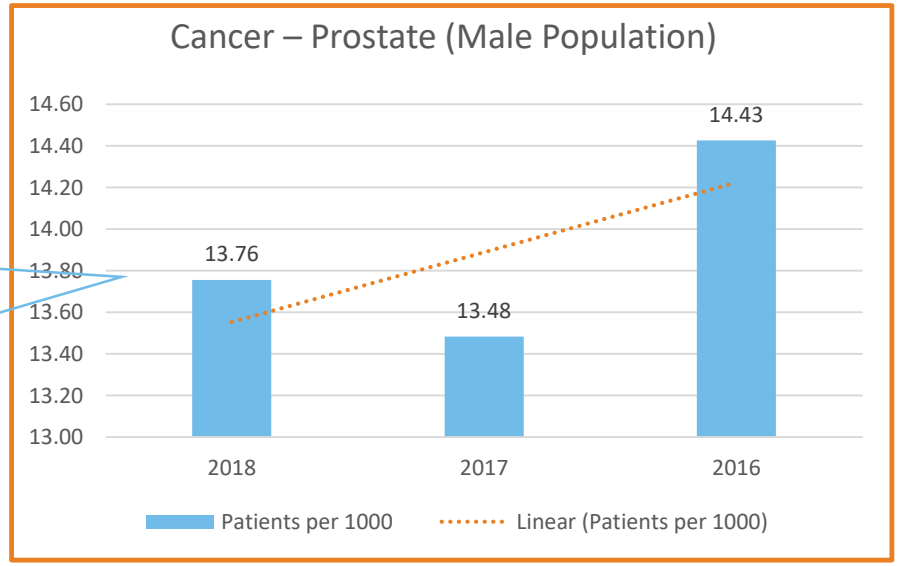
*Benchmark data from IBM MarketScan® Database for 2017 Commercial Fee for Service experience and is not age / sex adjusted.
Prevalence rates reported by the CDC and ACS are considerably lower but utilize different methodologies such as, age adjusted to the 2000 US standard population, limited to invasive cancers, based on cases diagnosed 2011-2014, and other exclusions. For example CA Breast Cancer rate = 1.21 per 1000, Prostate = 1.012 per 1000.

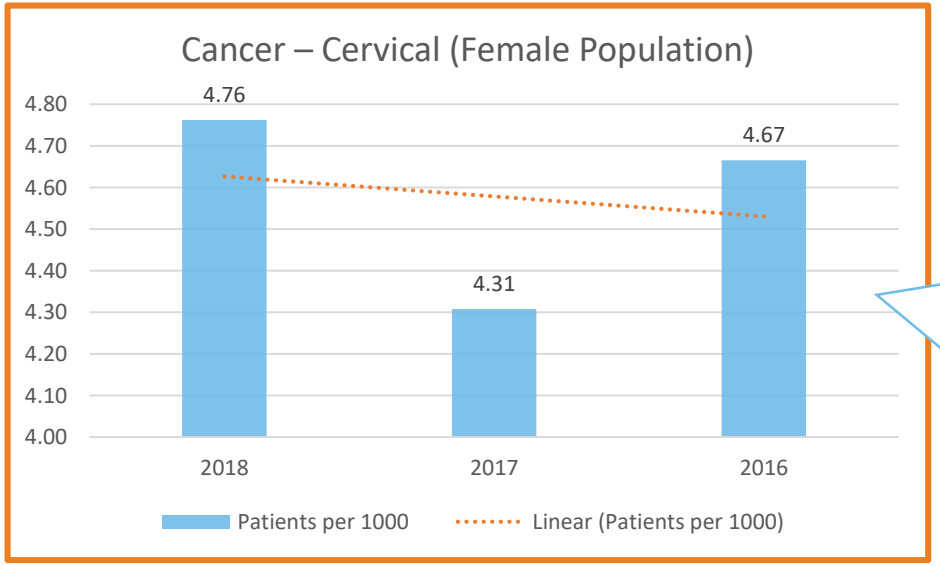
Rate per 1000 Year Over Year Trend – All HSS members
Next 3 Cancers by Prevalence

While Breast Cancer can impact both the male and female population, it is the top condition (other than skin cancer) affecting the female population. Female only rate is 19.89 per 1000



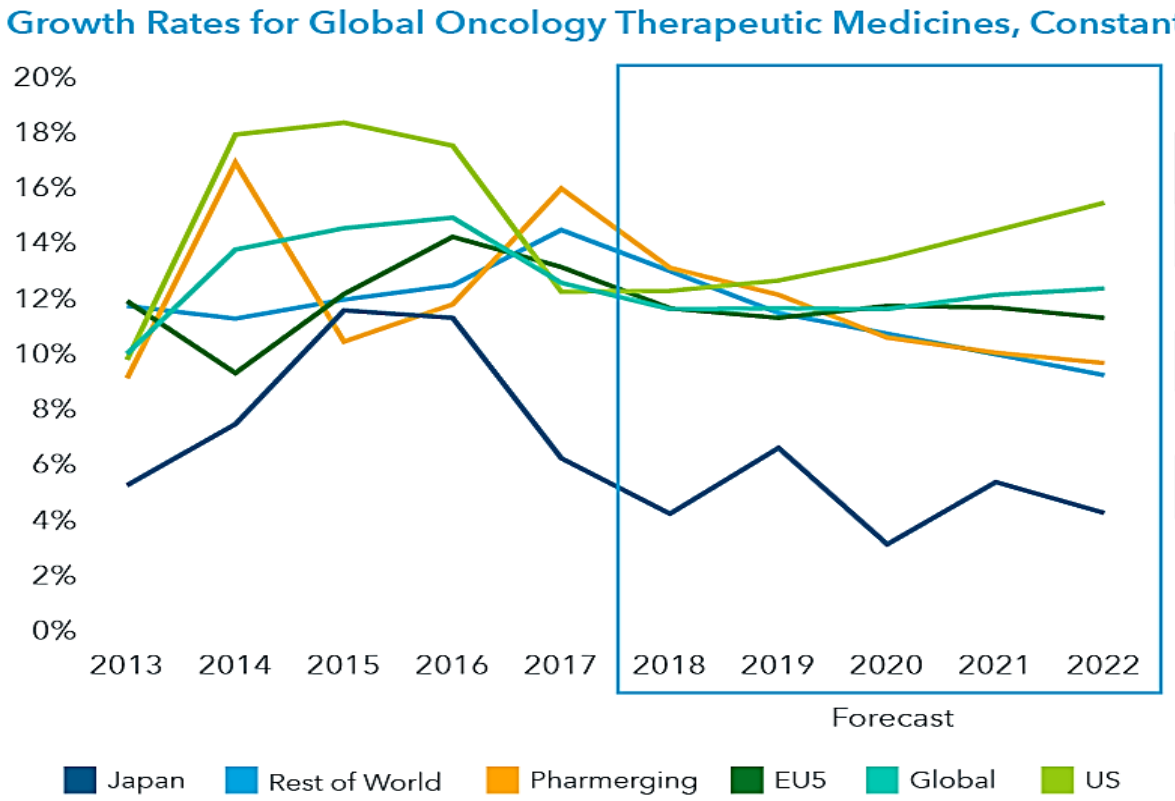
Prostate Cancer is up since previous year but trending lower than in 2016





Cervical Cancer is in the top 3 of the active and the early retiree population, the 2018 rate per 1000 is **5.34**

US Spend on Oncology: 2020 and Beyond

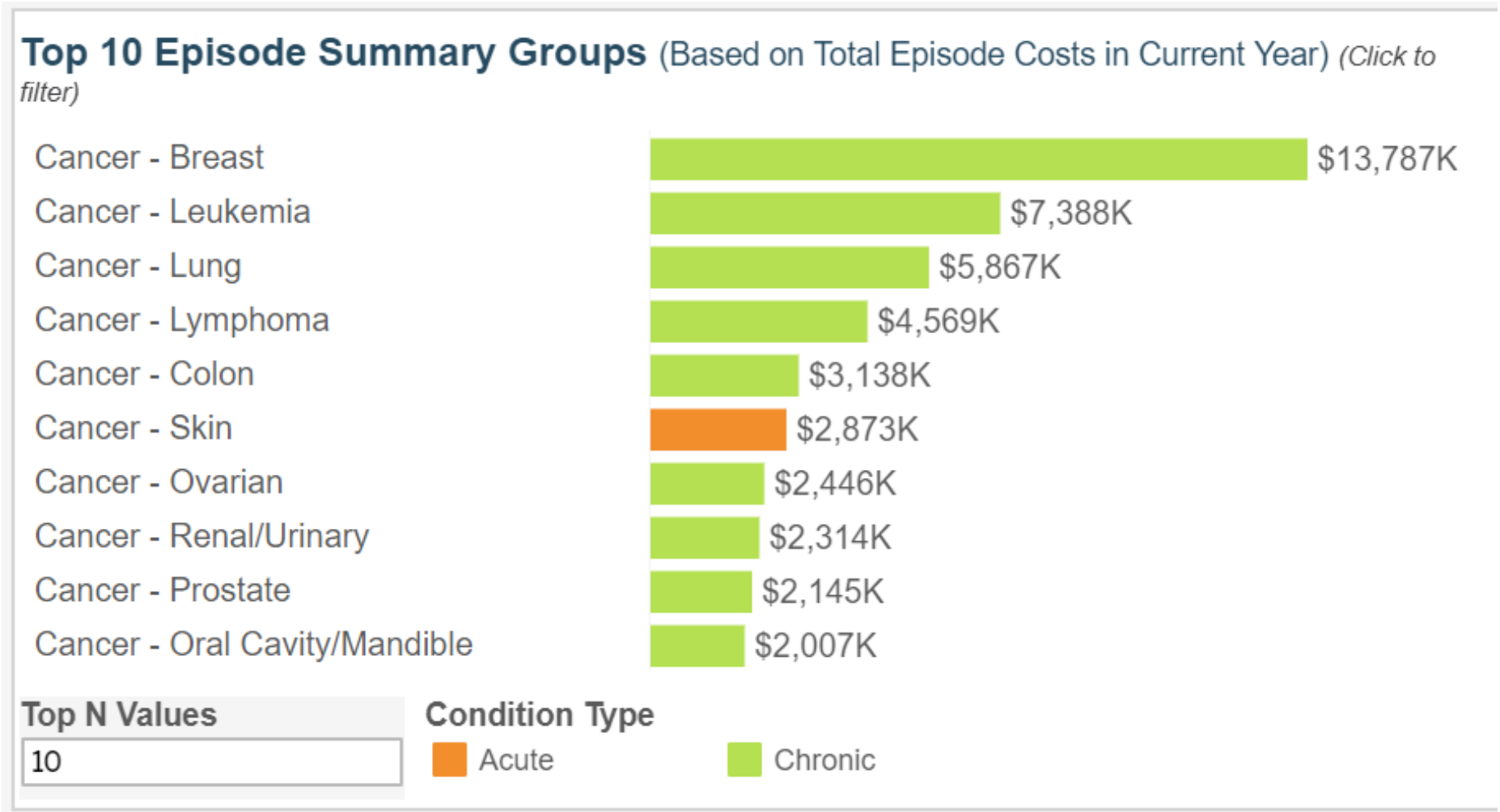


	CAGR 2018-2022	Oncology Spending 2022
Global	10-13%	$180-200Bn
US	12-15%	$90-100Bn
EU5	10-13%	$40-45Bn
Japan	3-6%	$10-12Bn
Pharmerging	10-13%	$18-20Bn
ROW	9-12%	$24-26Bn

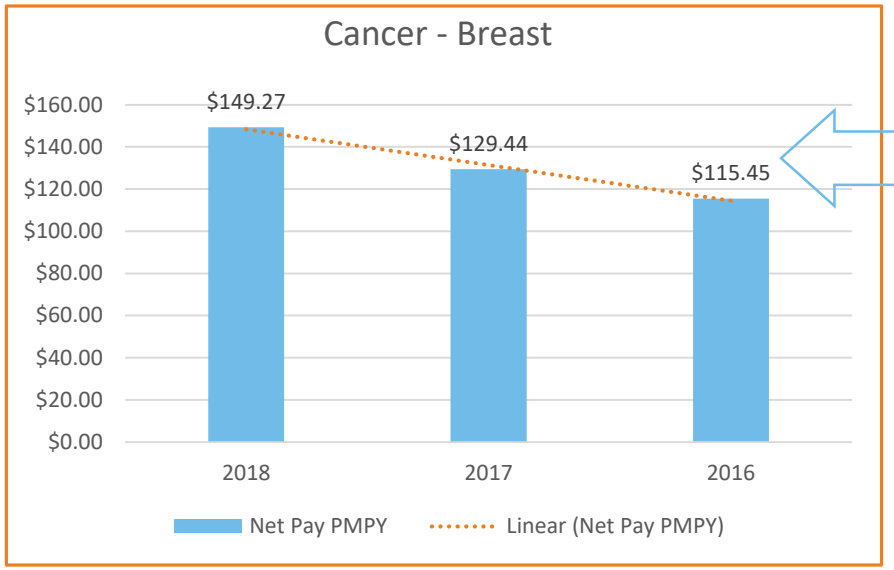
Source: IQVIA Institute, Dec 2017
Notes: Spending Growth in Constant US$.
Global Oncology Trends 2018: Innovation, Expansion and Disruption. IQVIA Institute for Human Data Science, May 2018

https://www.iqvia.com/insights/the-iqvia-institute/reports/global-oncology-trends-2018

2018 Total Episode costs are based on Active and Non-Medicare retiree populations. Medicare financials not available.

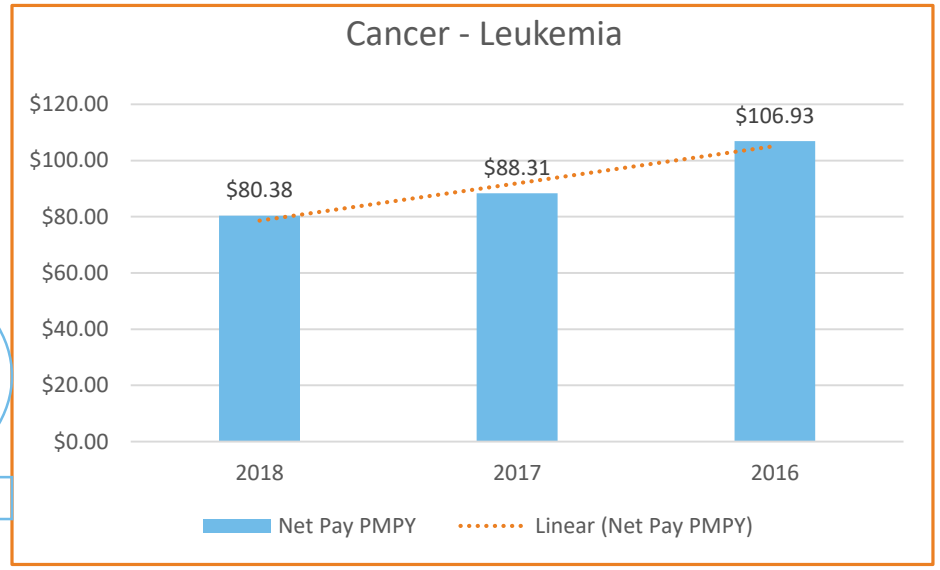


Net Pay PMPY Year Over Year Trend – Active & Early Retiree members
Top Cancers by Cost

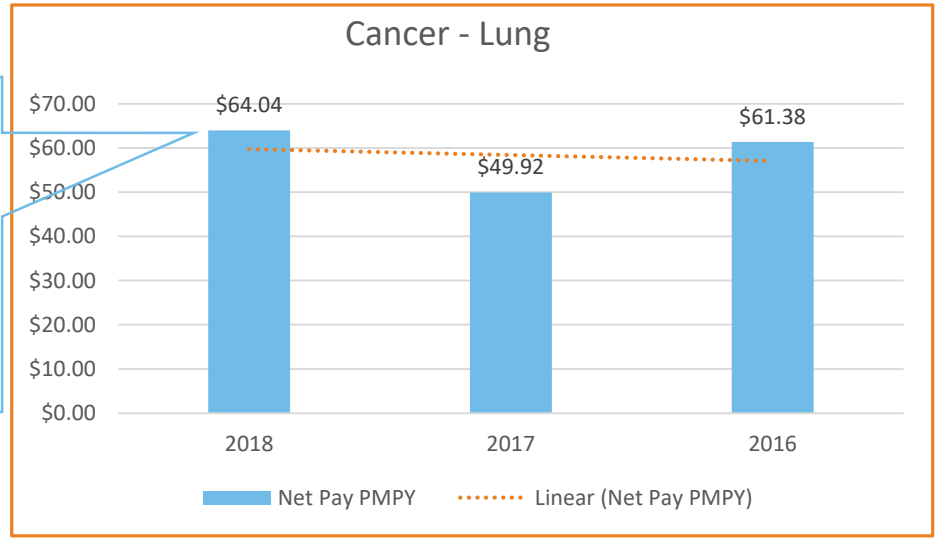


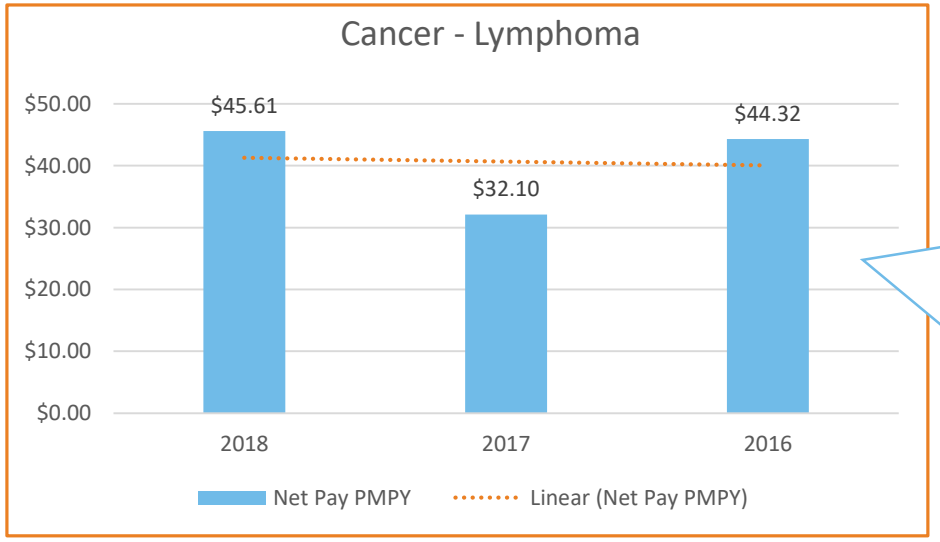
Breast Cancer is the costliest cancer in the SFHSS population. Both medical and Rx costs are increasing although Rx is increasing at a higher rate.

Leukemia is the second costliest cancer impacting the SFHSS population but costs are on a downward trend due to decreasing medical costs.



Lung Cancer costs are trending upwards due to increasing Rx costs. Medical costs in 2019 were slightly lower compared to 2016

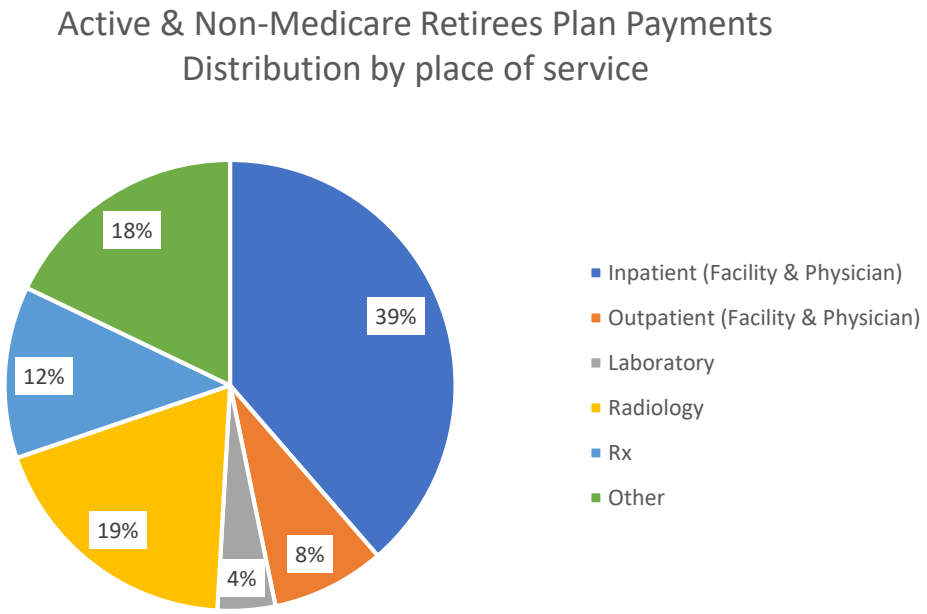


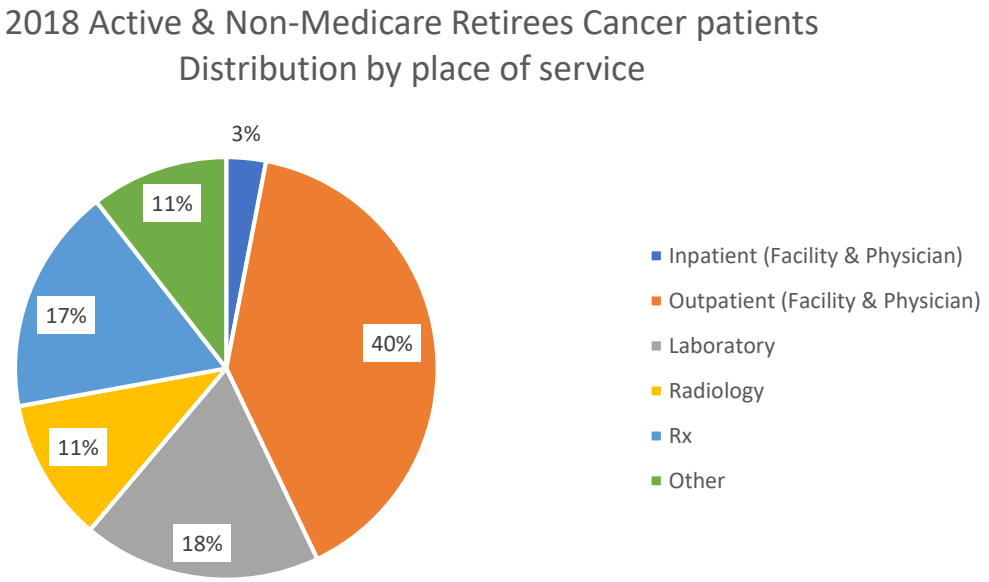


Lymphoma costs are trending up with 97%-99% of those costs attributed to medical costs

Distribution of cancer care by Service Category

Based on costs and patients





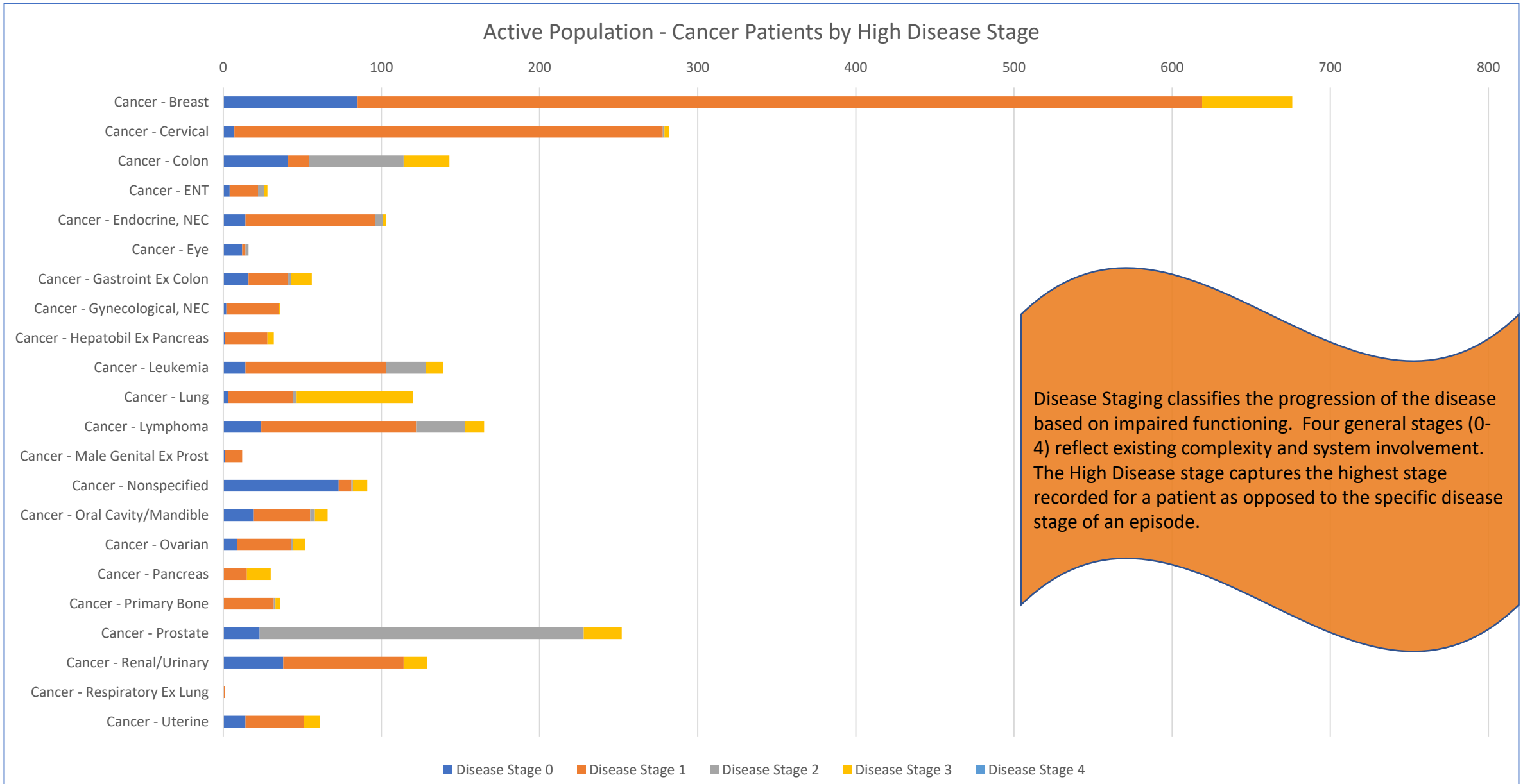
	2018	2017	2016
Inpatient (Facility & Physician)	$11,937,149.24	$14,219,222.95	$16,082,149.00
Outpatient (Facility & Physician)	$14,228,828.50	$13,431,855.97	$15,728,954.90
Laboratory	$2,316,723.20	$2,052,582.84	$1,945,928.83
Radiology	$10,565,767.71	$10,196,872.19	$10,515,793.68
Rx	$6,903,111.03	$4,873,906.31	$4,866,482.57
Other	$10,002,928.46	$8,253,292.15	$6,217,373.27
Total Cancer Plan Payments	$55,954,508.15	$53,027,732.42	$55,356,682.25
% of cancer spend to total spend	10%	9%	10%

Long-Term Survivorship

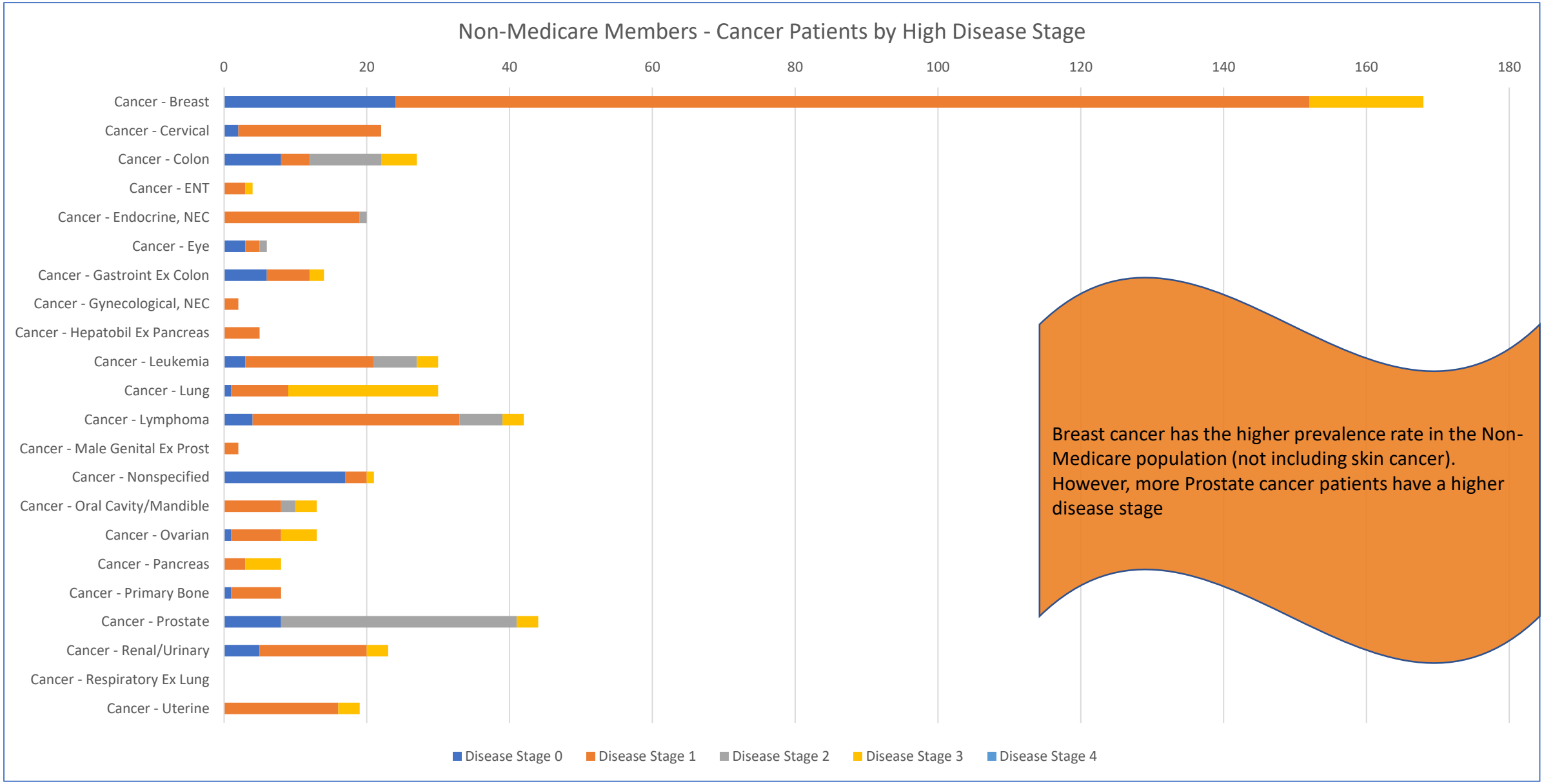
The economic impact of cancer survivorship is considerable and remains high years after a cancer diagnosis.

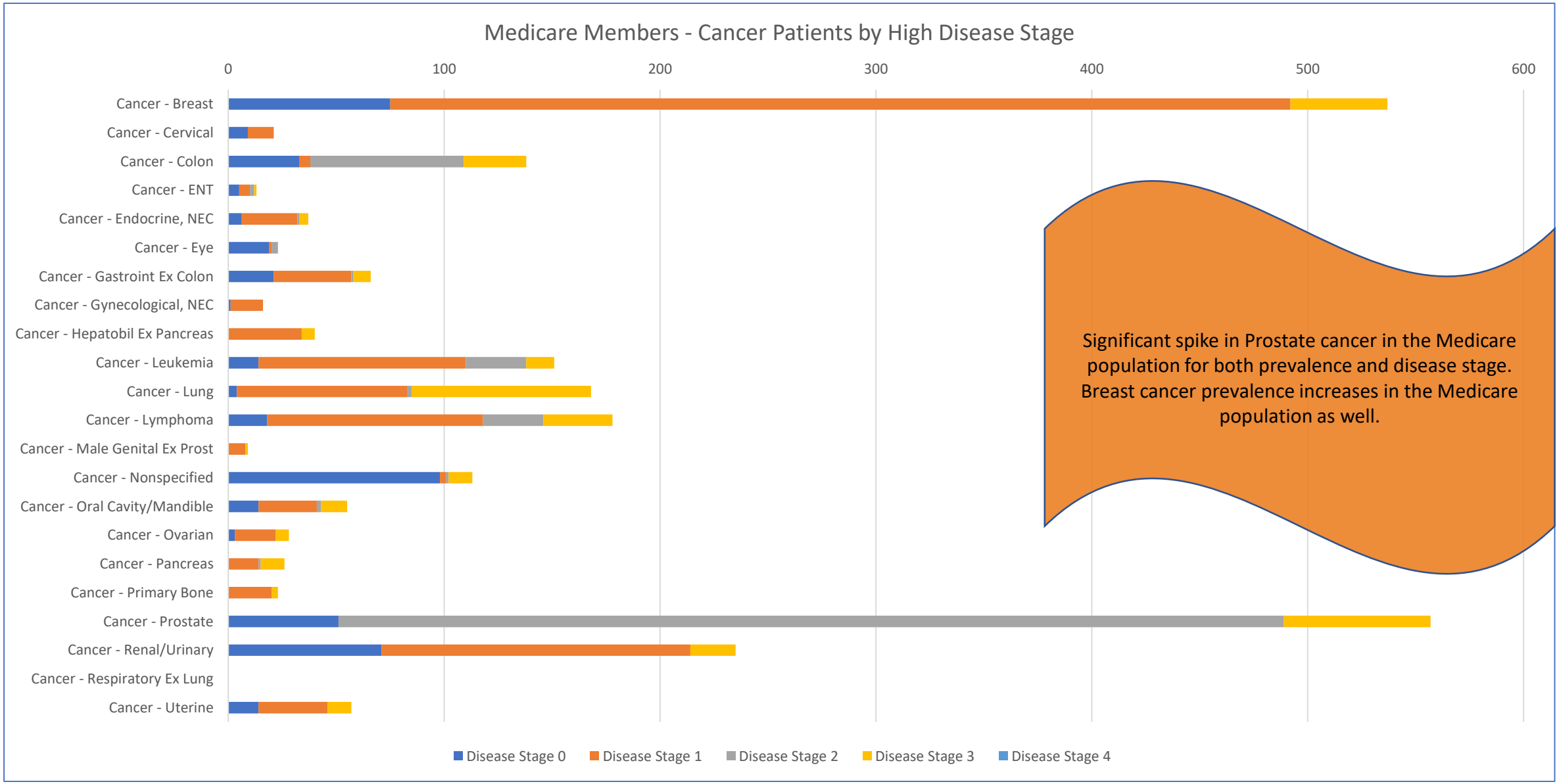
Mortality rates among cancer patients who filed for bankruptcy are, on average, 79 percent higher.

Sources: https://www.genome.gov/19016729/coverage-and-reimbursement-of-genetic-tests/
https://ascopubs.org/doi/pdf/10.1200/JCO.2015.64.6620
https://www.ncbi.nlm.nih.gov/pubmed?term=24043731



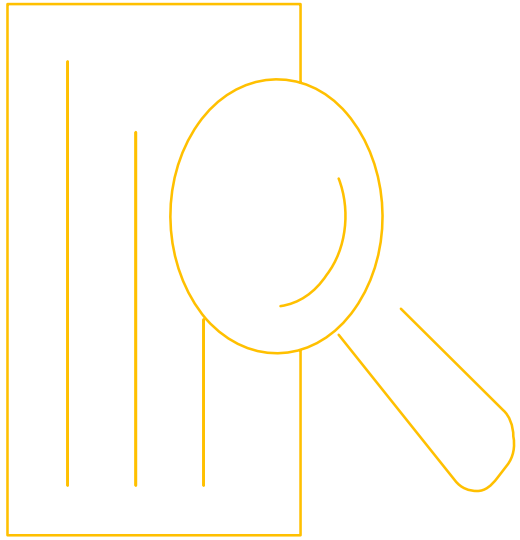
Disease Staging classifies the progression of the disease based on impaired functioning. Four general stages (0-4) reflect existing complexity and system involvement. The High Disease stage captures the highest stage recorded for a patient as opposed to the specific disease stage of an episode.


Non-Medicare Members - Cancer Patients by High Disease Stage
0
20
40
60
80
100
120
140
160
180
Cancer - Breast
Cancer - Cervical
Cancer - Colon
Cancer - ENT
Cancer - Endocrine, NEC
Cancer - Eye
Cancer - Gastroint Ex Colon
Cancer - Gynecological, NEC
Cancer - Hepatobil Ex Pancreas
Cancer - Leukemia
Cancer - Lung
Cancer - Lymphoma
Cancer - Male Genital Ex Prost
Cancer - Nonspecified
Cancer - Oral Cavity/Mandible
Cancer - Ovarian
Cancer - Pancreas
Cancer - Primary Bone
Cancer - Prostate
Cancer - Renal/Urinary
Cancer - Respiratory Ex Lung
Cancer - Uterine
Disease Stage 0
Disease Stage 1
Disease Stage 2
Disease Stage 3
Disease Stage 4
Breast cancer has the higher prevalence rate in the Non-Medicare population (not including skin cancer). However, more Prostate cancer patients have a higher disease stage


Medicare Members - Cancer Patients by High Disease Stage
0
100
200
300
400
500
600
Cancer - Breast
Cancer - Cervical
Cancer - Colon
Cancer - ENT
Cancer - Endocrine, NEC
Cancer - Eye
Cancer - Gastroint Ex Colon
Cancer - Gynecological, NEC
Cancer - Hepatobil Ex Pancreas
Cancer - Leukemia
Cancer - Lung
Cancer - Lymphoma
Cancer - Male Genital Ex Prost
Cancer - Nonspecified
Cancer - Oral Cavity/Mandible
Cancer - Ovarian
Cancer - Pancreas
Cancer - Primary Bone
Cancer - Prostate
Cancer - Renal/Urinary
Cancer - Respiratory Ex Lung
Cancer - Uterine
Disease Stage 0
Disease Stage 1
Disease Stage 2
Disease Stage 3
Disease Stage 4
Significant spike in Prostate cancer in the Medicare population for both prevalence and disease stage. Breast cancer prevalence increases in the Medicare population as well.

Key Metrics Going Forward

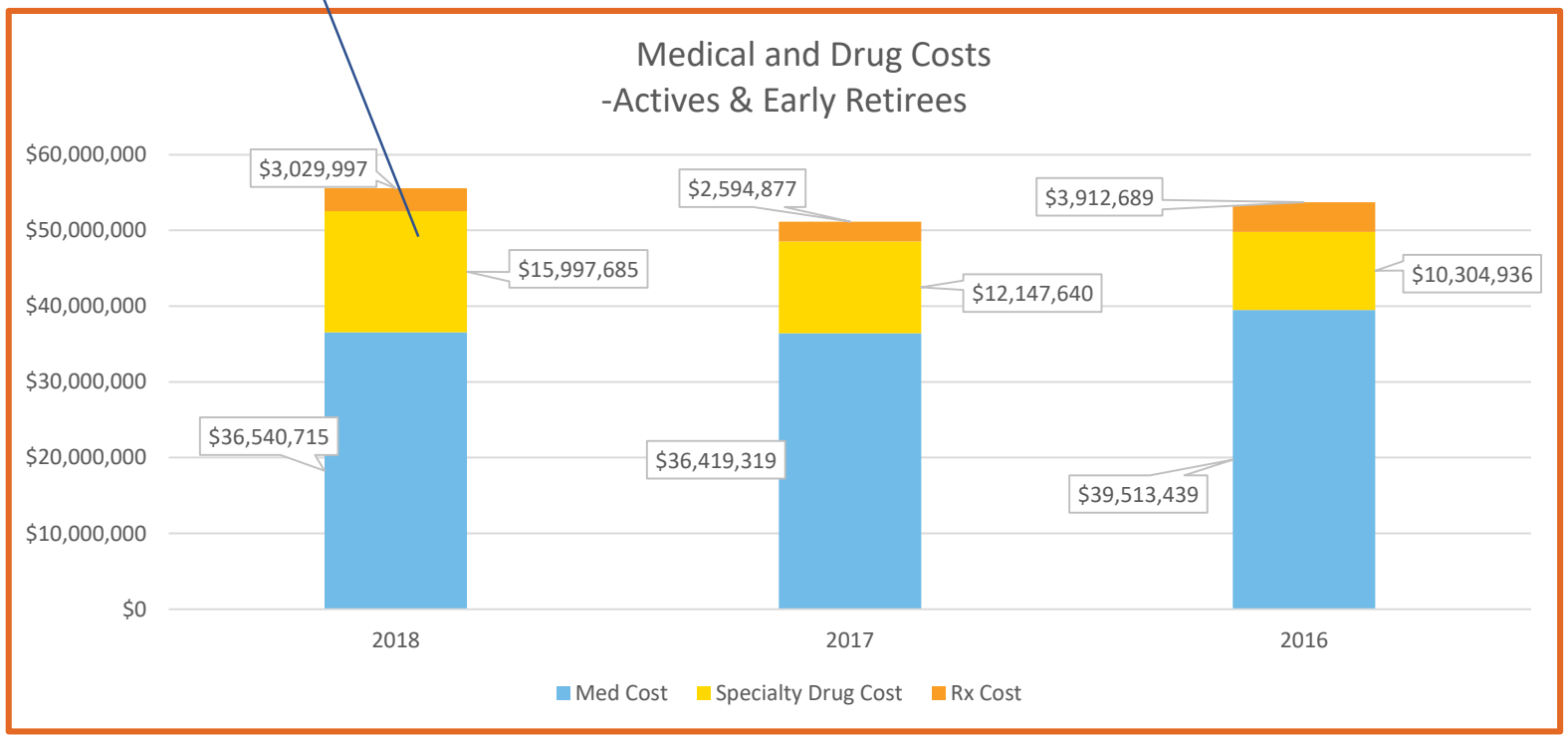
- Disease Stage upon initial cancer diagnosis
- Screening rates for Cervical, Breast and Colon Cancer compared to benchmarks for national average and Healthy People 2020, by plan
- Prevalence rates for all cancers



Appendix

Specialty Drug costs have increased by 24% from last year

The specialty drugs identified here are billed under medical claims



Top 10 Drugs for Cancer Treatment in 2018

Active & Non-Medicare population

Revlimid Allowed Amount PMPY has increased 46% over previous year and Days Supply per 1000 members is up 18% over previous year.

Cancer	Drug Name	Patients	Total Plan Payments Rx	Cost per Patient
Cancer - Leukemia	IMBRUVICA	3	$451,204.74	$150,402
Cancer - Leukemia	REVLIMID	11	$1,298,223.83	$118,020
Cancer - Leukemia	SPRYCEL	2	$213,039.92	$106,520
Cancer - Renal/Urinary	LENVIMA	2	$204,957.44	$102,479
Cancer - Ovarian	ZEJULA	2	$200,423.39	$100,212
Cancer - Breast	AFINITOR	2	$190,797.52	$95,399
Cancer - Lung	TAGRISSO	10	$803,644.47	$80,364
Cancer - Breast	IBRANCE	11	$868,644.53	$78,968
Cancer - Renal/Urinary	AFINITOR	3	$223,627.57	$74,543
Cancer - Prostate	ZYTIGA	4	$159,787.45	$39,947
Cancer - Leukemia	IMATINIB MESYLATE	8	$270,598.51	$33,825
Total		**54**	**$4,884,949.37**	