

# Merck Value Based Cancer Care

**Merck's strategy to improve health outcomes and patient experience by optimizing oncology value-based incentive design while eliminating wasteful spending.**



# Merck Value Based Cancer Care

## Project Objective: Create value based cancer care through incentive design and high value care

### Phase 1- Health-plan

- Identify and reduce low value care
- Create budget based on high value care services.
- Mitigate risk with increases deductibles, co-insurance and increase preventive services and screenings

**\$12M in waste**

Phase 1: 2020-2021

### Phase 2 Oncology – VBIDx

- Understand the current state of cancer care among U.S. based Merck employees.
- Optimize care: breast, cervical ,prostate, lung, colon.
- Time to dx , Time RX, 2<sup>nd</sup> Opinion, Precision Med, Sites of Care. Eval low value care.

Phase 2: 2021-2022

### Phase 3- Develop Roadmap

- Finalize roadmap for high value cancer care including VBID recommendations and learnings from analysis.
- Track progress and update strategy
- Socialize

Phase 3: 2023-beyond

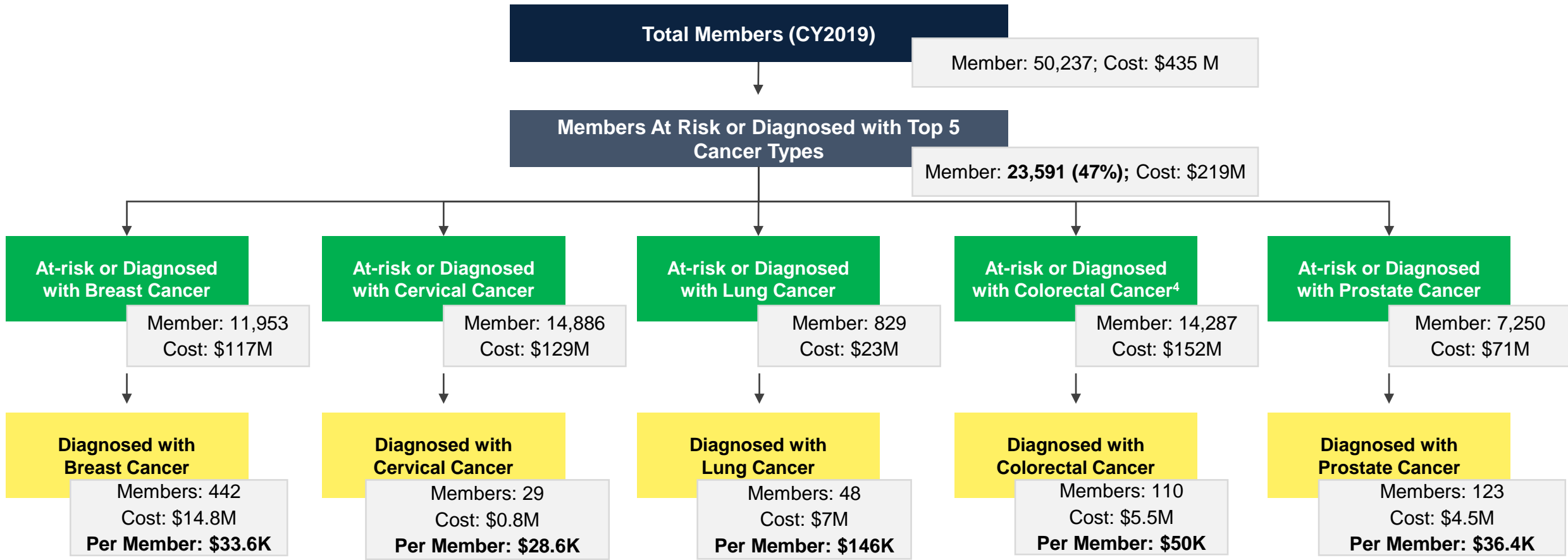
# Phase 2 – Milestones

High-Value Cancer Care is defined as:

“The right care at the right time in the right place with the right outcome at the right cost.”

1. Understand the current state of cancer care among U.S. based employees and dependents covered by Merck-sponsored benefits. Quantify inefficiencies low value cancer care
  - Create dashboard to track impact
  - Define efficient site of care optimization strategy
2. Recommendations on health plan design to increase utilization of high-value services

# Cancer Analysis



**Merck has higher prevalence (47%) of members at risk or diagnosed with top 5 cancer types compared to benchmark\* (39%).  
The prevalence of top 5 cancers is about twice of that for benchmark (0.8%).**

Costs are based on all healthcare spending during 2019.

Selection Criteria:

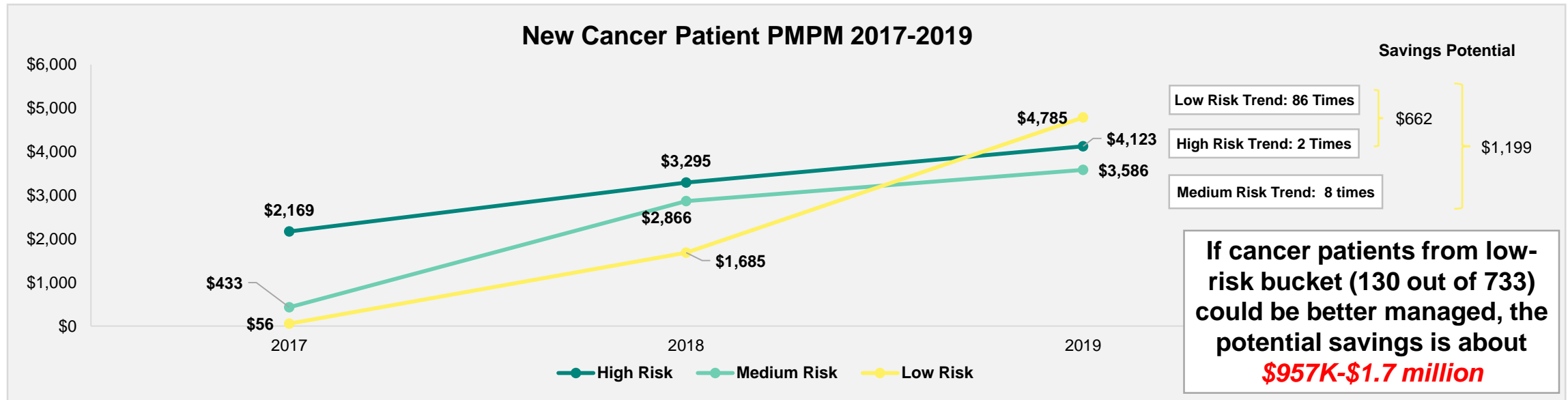
- Top 5 cancer types include lung, breast, prostate, cervical, and colorectal cancers

\* 4 million Administrative Services Only (ASO) members were selected from EXL benchmark that contains 30 million Commercial, 5 million Medicare Advantage and 5 million Medicaid populations.



# Cancer Analysis

There were 310 new cancer patients in 2019, the low-risk baseline patients (130) had highest cost increase



## SELECTION CRITERIA

- Continuous eligibility from 2017 to 2019
- Had at least one of five cancer types (i.e. lung, breast, prostate, cervical, and colorectal) in 2018 or 2019 but no cancer in 2017
- Prospective risk score was used to identify members at different risk levels:
  - High risk: above 90th percentile of **the entire population**
  - Medium risk: 50th percentile - 90th percentile
  - Low risk: below 50th percentile

# The 3 Areas of Plan Recommendations Are:

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- 1. Preventative services:** Increase compliance of office visit and cancer screenings for at-risk patients for top 5 cancer types, who had low risk at baseline
- 2. Diagnosis and early treatments for new patients:** Shorten time to surgery for patients who are newly diagnosed for breast cancer and qualified for surgeries
- 3. Ongoing care for cancer patients:** Reduce waste and inefficiency of diagnosis and treatments

# Phase 3 – Milestones

High-Value Cancer Care is defined as:

“The right care at the right time in the right place with the right outcome at the right cost.”

1. Finalize roadmap for high value cancer care including VBID recommendations and learnings from analysis
2. Track progress and revise strategy
3. Socialize

# Comprehensive Cancer Strategy



## Prevention

- ✓ Best in class screening rates (HP 2030)
- ✓ Engage healthy population
- ✓ Early detection programs
- ✓ Targeted campaigns and easy scheduling



## Diagnosis & Treatment

- ✓ Timely and accurate diagnosis and treatment
- ✓ Precision oncology
- ✓ Local CoEs/Remote expert guidance
- ✓ Expert 2nd opinion to validate treatment
- ✓ Incentivized plan design
- ✓ Minimize barriers to coverage (e.g. Utilization management or investigational labels)



## Survivorship/End of Life

- ✓ Side effect treatment / support
- ✓ Community support and resources
- ✓ Legal support
- ✓ Caregiving
- ✓ Palliative care /support
- ✓ Mental health



## Member Experience

- ✓ Cancer Advocacy
- ✓ Integrated Care coordination
- ✓ Digital navigation
- ✓ Behavior change
- ✓ Screening reminders
- ✓ Integrated with Merck's programs



## Well-being

- ✓ Paid time off
- ✓ Return to work support
- ✓ Financial planning
- ✓ Mental health
- ✓ Nutrition

**Efficient Tracking – robust real-time dashboard, outcomes, measure plan design impact, eliminate waste**

# Current Cancer Benefits & Resources

## Prevention

- Annual cancer screenings regardless of age covered at 100%
- Genetic Screenings (BRCA1/BRCA2) covered at 100%
- PTO for preventive care
- Incentives / raffle prizes for preventive visits/cancer screenings
- HPV vaccine
- Tobacco cessation therapy and products covered at 100%
- Targeted screening reminders

## Member Experience

- Patient advocacy and care management through Horizon Health Guides
- Health coaching
- Employee Resource Groups
- Wellbeing Champion Networks
- Online education resources for patients, support communities
- Caregiving Support
- Mental Health support through Lyra

## Diagnosis/Treatment

- 2nd.MD expert medical opinion
- Immediate access to Memorial Sloan-Kettering
- Travel Benefits
- Fertility preservation
- Nutritional counseling
- Clinical trial coverage
- 100% Keytruda coverage

## Work-Life

- Sick time
- Short-term disability
- Long-term disability
- Flexible work arrangements
- Workplace accommodations
- Leave of absence for loved ones
- Financial planning

# Current Cancer Benefit Highlights



## Expert second opinions

2nd.MD provides second opinions from expert oncologists at leading cancer centers. Offered at no cost to Merck medical plan participants.

**Access through a Horizon Health Guide at 877-663-7258**



Memorial Sloan Kettering  
Cancer Center

## Immediate cancer treatment

Access to expedited appointments and cancer treatment at Memorial Sloan Kettering. You do not need to be enrolled in the Merck medical plan.

**Go to [mskcc.org/merck](https://mskcc.org/merck) or call 833-986-1751**



## Free screenings and prevention

The Merck medical plan covers in-network preventive cancer screenings and BRCA genetic testing at 100% regardless of age each year. The HPV vaccine and tobacco cessation products are also covered at 100%.

**Ask a Horizon Health Guide at 877-663-7258**

All about you  
**Live Earn Grow**

## Cancer support info all in one place

Access our benefits & wellbeing microsite at [BenefitsatMerck.com](https://BenefitsatMerck.com)

**See “What I need...” menu and select “Cancer support” for all program information.**

# Appendix

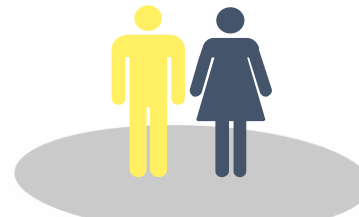
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# PROJECT METHODOLOGY – SOLUTION FRAMEWORK

## DATA SOURCES



Base Solution



**Patient / Member Profiles**



## ANALYTICS ENGINE & INTEGRATED PLATFORM

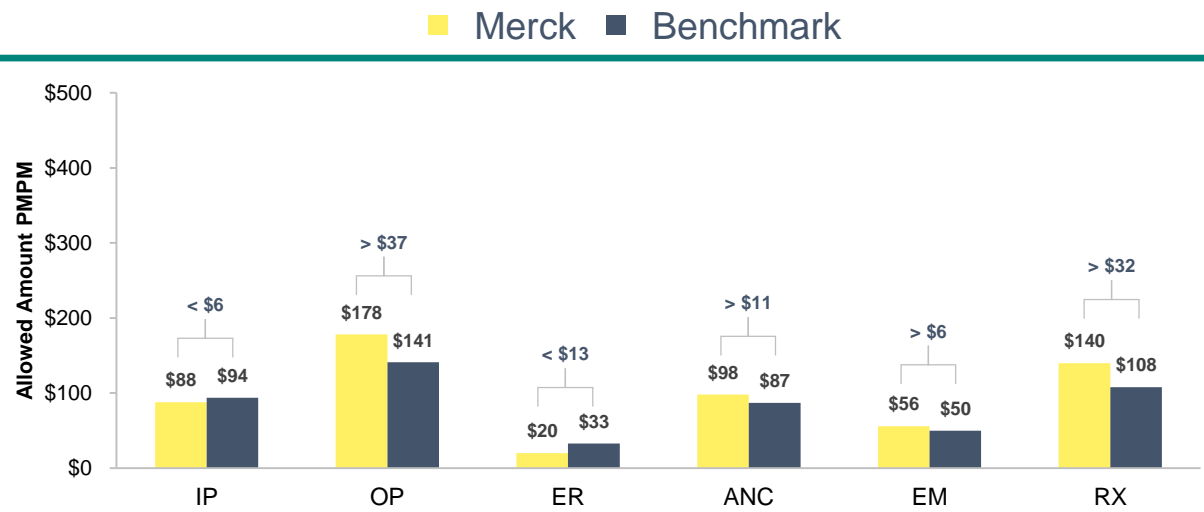
- 360-degree member view**
  - Demographics
  - Cost & utilization
  - Likelihood of avoidable IP
  - Likelihood of avoidable ER
  - Unplanned readmissions
  - Geographic locations
- Clinical definition & KPIs**
  - Cancers and co-morbid conditions
  - Care gaps
  - Cancer screening tests and treatments
  - Time to diagnosis and treatments
  - Benchmark
- Predictive models**
  - Proprietary models of value-based care and behavioral change
  - Risk Scores



## REPORTS & OUTPUT

- Recommendations based on insights gained from the member analytics**
- Population health reporting with KPIs**
- Member list based on latest profile**

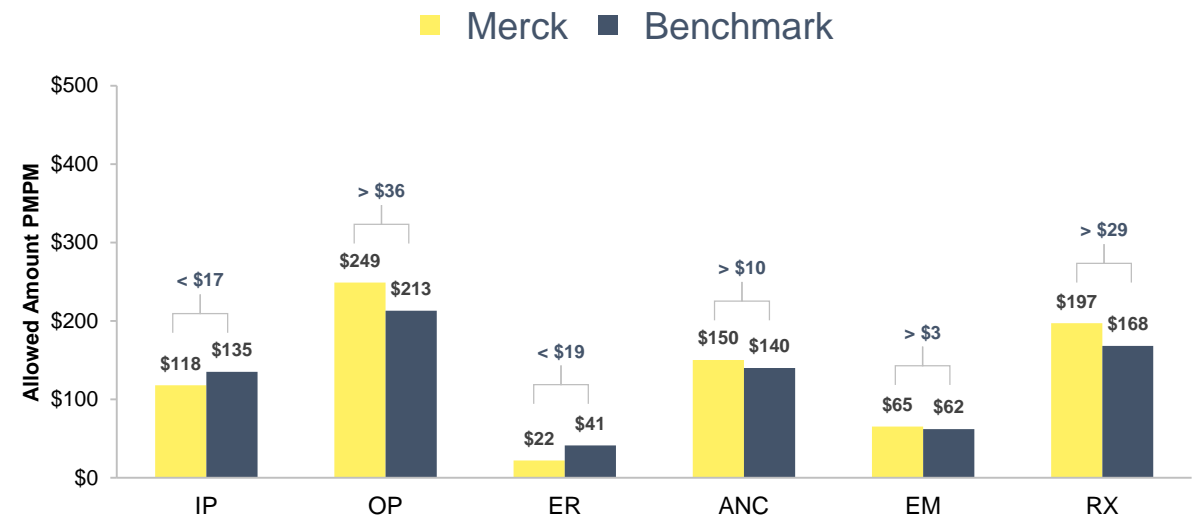
# COST OF CARE BY SERVICE TYPES – TOTAL MEMBERS VS AT-RISK OR DIAGNOSED CANCER MEMBERS



## Total Members

	Merck	Benchmark
Member Count	50,237	4.4M
Total Allowed PMPM	<b>\$580</b>	<b>\$513</b>
Avg. Age	35.2	33.8
% of Female	52%	50%
Avg. Prospective Risk	1.19	1.20
Avg. Concurrent Risk	1.30	1.08

- Allowed PMPM of Merck's total members is \$67 higher than that of benchmark
- Outpatient, Rx, and ancillary services are drivers for the cost difference



## At-risk or Diagnosed Cancer Members

	Merck	Benchmark
Member Count (%)	23,591 (47%)	1.7M (39%)
Total Allowed PMPM	<b>\$801</b>	<b>\$759</b>
Avg. Age	49.9	48.6
% of Female	69%	70%
Avg. Prospective Risk	1.73	1.68
Avg. Concurrent Risk	1.81	1.66

- Allowed PMPM of Merck's at-risk or diagnosed cancer members is \$42 higher than that of benchmark
- Outpatient, Rx, and ancillary services are drivers for the cost difference

IP: Inpatient; OP: Outpatient; ER: Emergency Room; ANC: Ancillary; EM: Evaluation & Management; RX: Prescription

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Of the 733 Merck employees diagnosed with the 5 cancers analyzed, **100** members took PD-L1 tests every year from CY2017 to CY2019.

- Of these members who took PD-L1 tests:
  - ~ 50% were diagnosed with Breast Cancer
  - ~ 4% were diagnosed with Lung Cancer
  - ~ 3% were diagnosed with Colorectal Cancer

# TREATMENT SUMMARY



## Treatment Summary



### Filters

Year: 2019

Gender: (All)

Age Band: (All)

Risk Bucket: (All)

New Cancer Patient: (All)

### Cancer Type

Any Cancer: (All)

Breast Cancer: (All)

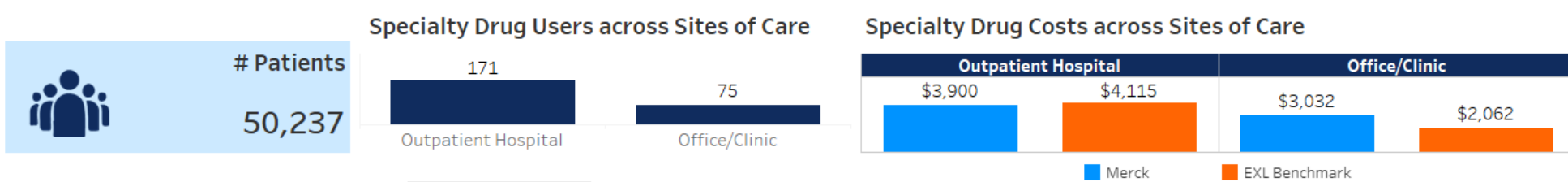
Cervical Cancer: (All)

Colon Cancer: (All)

Lung Cancer: (All)

Prostate Cancer: (All)

### Population Characteristics



### Treatment Summary - Overall

Treatment Type: Overall

	Units per 1,000 Patients	Allowed Amount per Unit	Cost Sharing Ratio
Diagnostic	1,085	\$302	14.4%
	1,082	\$274	18.4%
Drugs	5,329	\$3,635	0.9%
	5,012	\$2,925	1.7%
Genetic Testing	1,017	\$82	9.5%
	1,017	\$87	10.9%
Tumor Marker Testing	1,440	\$410	11.3%
	1,408	\$233	11.3%
Others	3,800	\$1,034	3.9%
	3,466	\$688	5.6%

### Retail Drugs Summary - Brand vs Generic

Therapeutic Class	# Merck Patients	% Generic Units		Allowed Amount per Unit				Member Amount per Unit			
		Merck	EXL Benc..	Merck		EXL Benchmark		Merck		EXL Benchmark	
		Brand	Gener..	Brand	Generic	Brand	Generic	Brand	Generic	Brand	Generic
ADHD/Anti-Narcolepsy /..	2,092	70.9%	70.0%	\$419	\$99	\$266	\$71	\$56	\$11	\$48	\$16
Analgesic/Anti-Inflamm..	10,244	88.3%	88.4%	\$3,746	\$29	\$1,680	\$23	\$69	\$9	\$101	\$6
Anti-Infective Agents (0..	26,253	96.8%	95.3%	\$2,347	\$24	\$1,267	\$20	\$53	\$10	\$85	\$8
Antihistamines/Nasal A..	12,772	66.4%	68.3%	\$345	\$32	\$249	\$24	\$36	\$14	\$31	\$7
Antineoplastic Agents a..	534	85.6%	85.9%	\$11,834	\$351	\$6,099	\$156	\$93	\$11	\$114	\$10
Cardiovascular Agents (..	16,668	95.3%	96.7%	\$460	\$34	\$346	\$20	\$91	\$9	\$44	\$6
Central Nervous System ..	10,828	92.3%	96.4%	\$777	\$18	\$422	\$17	\$43	\$10	\$52	\$7
Dermatological/Anorect..	14,413	79.9%	81.9%	\$1,502	\$71	\$819	\$47	\$68	\$11	\$71	\$10
Endocrine and Metaboli..	15,147	67.6%	74.1%	\$679	\$48	\$453	\$26	\$27	\$8	\$39	\$6
Gastrointestinal Agents ..	7,860	84.6%	87.4%	\$622	\$60	\$418	\$29	\$47	\$11	\$43	\$7
GU Anti-Infectives/GU A..	2,063	79.5%	85.2%	\$893	\$83	\$327	\$45	\$84	\$12	\$47	\$11
Hematological Agents (..	1,131	60.2%	63.5%	\$1,913	\$60	\$757	\$34	\$64	\$12	\$52	\$6
Miscellaneous Products ..	1,806	88.0%	76.7%	\$377	\$165	\$215	\$114	\$15	\$13	\$18	\$12
Neuromuscular Agents (..	4,362	89.9%	93.6%	\$1,514	\$30	\$537	\$24	\$70	\$10	\$53	\$6
Nutritional Products (77..	1,348	91.7%	90.3%	\$203	\$18	\$97	\$11	\$65	\$7	\$22	\$4
Psychotherapeutic and ..	293	57.3%	65.6%	\$6,482	\$1,160	\$2,124	\$293	\$61	\$10	\$74	\$16
Vaccines/Toxoids/Passiv..	6,190	100.0%	99.3%	\$124		\$85	\$52	\$1		(\$2)	(\$13)

## Conditions Summary

### Filters

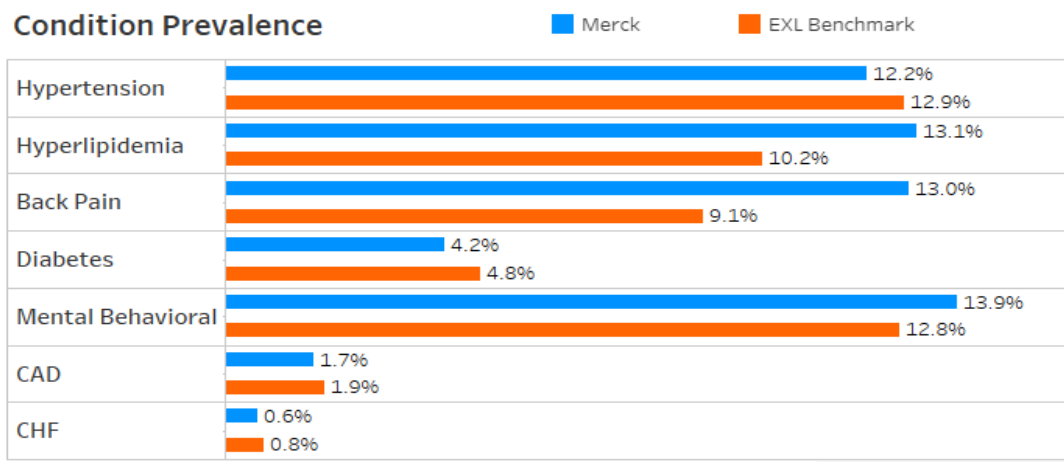
Year: 2019  
 Gender: (All)  
 Age Band: (All)  
 Risk Bucket: (All)  
 New Cancer Patient: (All)  
 State: (All)

### Cancer Type

Any Cancer: (All)  
 Breast Cancer: (All)  
 Cervical Cancer: (All)  
 Colon Cancer: (All)  
 Lung Cancer: (All)  
 Prostate Cancer: (All)

### Population Characteristics

**# Patients**  
**50,237**



### Compliance Summary - Overall

Select Condition Compliance: Overall

Condition	Previous Year		Current Year	
	Merck	EXL Benchmark	Merck	EXL Benchmark
Hypertension - Office Visit	43.0%	76.6%	43.7%	78.0%
Mental Behavioral - Office Visit	87.7%	47.0%	89.1%	53.1%
Diabetes - Office Visit	89.4%	86.7%	89.3%	87.2%
Diabetes - HbA1c	82.1%	85.3%	82.1%	86.0%
Diabetes - Eye Exam	34.3%	27.1%	34.7%	27.5%
Hyperlipidemia - Office Visit	87.9%	85.4%	88.2%	86.6%
CHF - Office Visit	94.3%	89.7%	90.4%	90.0%
CAD - Office Visit	90.1%	88.4%	90.3%	89.0%
CAD - Lipid Panel	75.3%	69.5%	78.9%	70.6%
Back Pain - Office Visit	85.8%	82.0%	86.1%	82.8%

