2020 SFHSS Risk Scores

SAN FRANCISCO
HEALTH SERVICE SYSTEM

Introduction

SFHSS DxCG Risk Scores are generated using the commercial Cotiviti DxCG (diagnostic cost grouper) models from the diagnoses on the claims in the SFHSS All Payer Claims Database (APCD).

- Risk Adjustment – Healthcare data into risk scores. Predict, Assess, Measure
- Concurrent Models
  - Retrospective
  - Chronic
  - Current Acute
- Prospective Models
  - Predictive
  - Chronic Conditions
  - Age/Gender
- Time periods
  - Current is Oct 2018 – Sep 2019
  - Previous is Oct 2017 – Sep 2018
  - Payment information is based on full year 2019 (current) and 2018 (previous)

SFHSS DxCG Risk Scores Executive Summary

Active Population

- The concurrent risk score increased by 3.71% from 2018 to 2019 to .978.
- The prospective risk scores for this population increased by 1.98% to 1.08.

Early Retirees

- Concurrent risk scores for Early Retirees enrolled in the Blue Shield plans decreased
- Blue Shield Early Retiree prospective scores had a very slight increase

Medicare Retirees

- Medicare population Concurrent and Prospective scores increased over previous period

Commercial Plan Performance

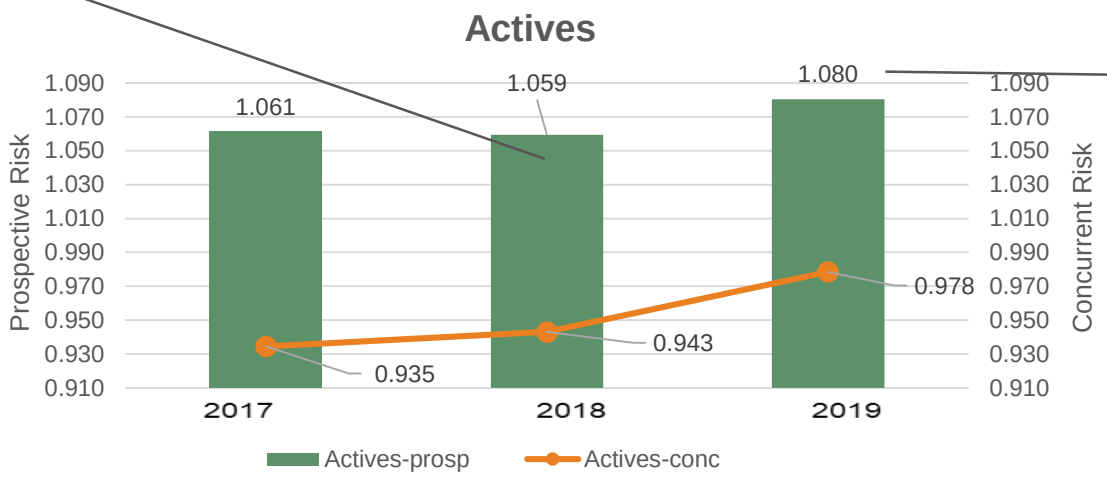
- UHC PPO, Blue Shield Trio and Blue Shield Access+ PMPY costs are all higher than expected
- Kaiser Permanente PMPY adjusted costs are lower than expected.
- 2% of the commercial population is driving 78% of the costs.

Conditions

- Consistent with the findings from previous year, Musculoskeletal Disorders are the clinical condition which is the largest driver of the prospective healthcare risk.
- Prevalent Conditions in the population include Type 2 Diabetes, Hypertension, Hyperlipemia and Sleep Apnea to name a few.
- Conditions driving significant costs include Type 2 Diabetes, Cancers, Sepsis, Heart Disease & Myocardial Infarctions, End Stage Renal Disease, Osteoarthritis

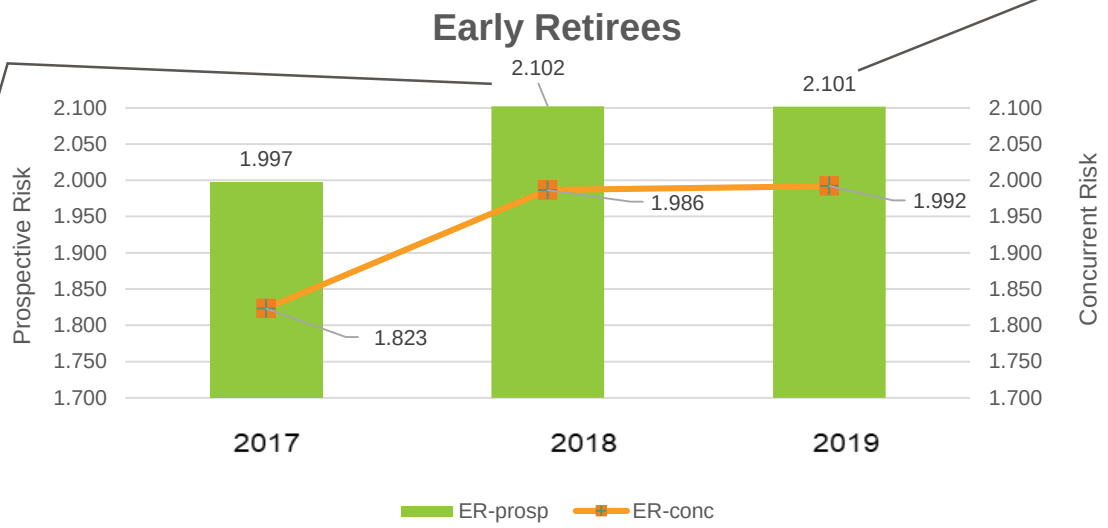
Risk Score Trend and Comparison of Predicted Health Risk (Prospective) to Actual (Concurrent)

Active population has performed better than the predicted scores. i.e., 2017 prospective scores were 1.061 but concurrent scores in 2018 were 0.943. The 2018 prospective score was 1.059 but the concurrent active score was .978



Prospective Risk score increased by 1.98%

Prospective risk score increased by .05%

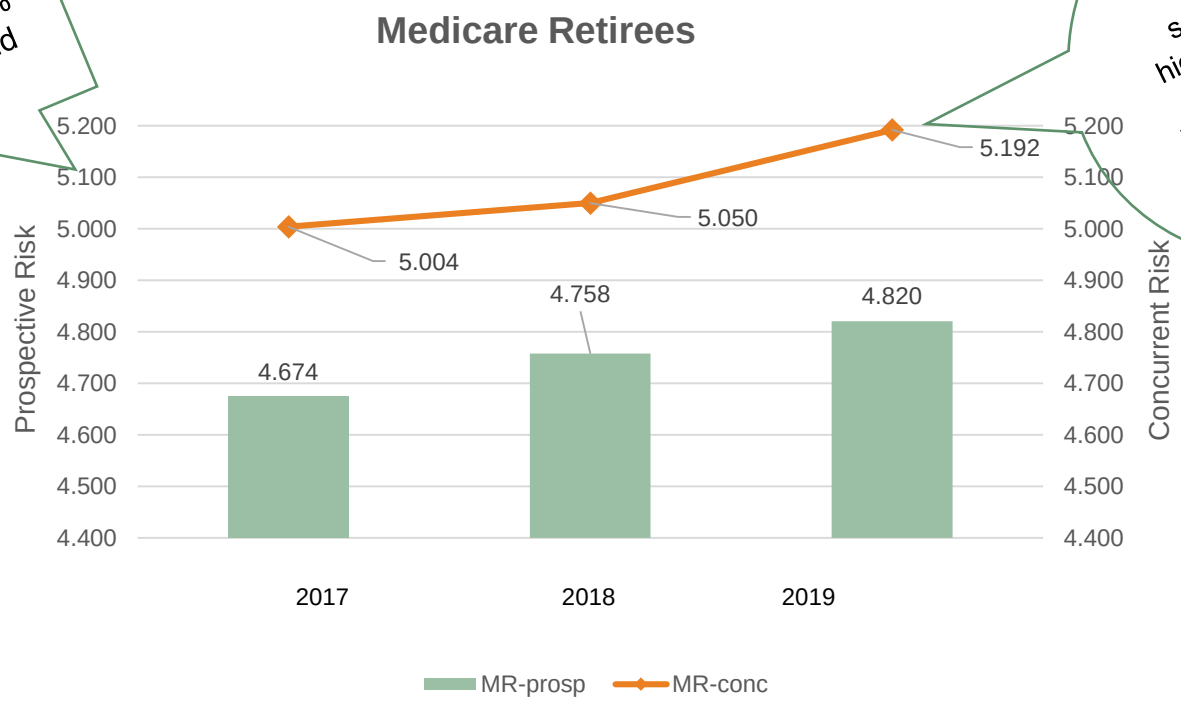


Early Retirees concurrent (actual) scores (1.992) were lower than previous year's projection (prospective) (2.102) which indicates acute ailments were contained.

Risk Score Trend and Comparison of Predicted Health Risk (Prospective) to Actual (Concurrent)

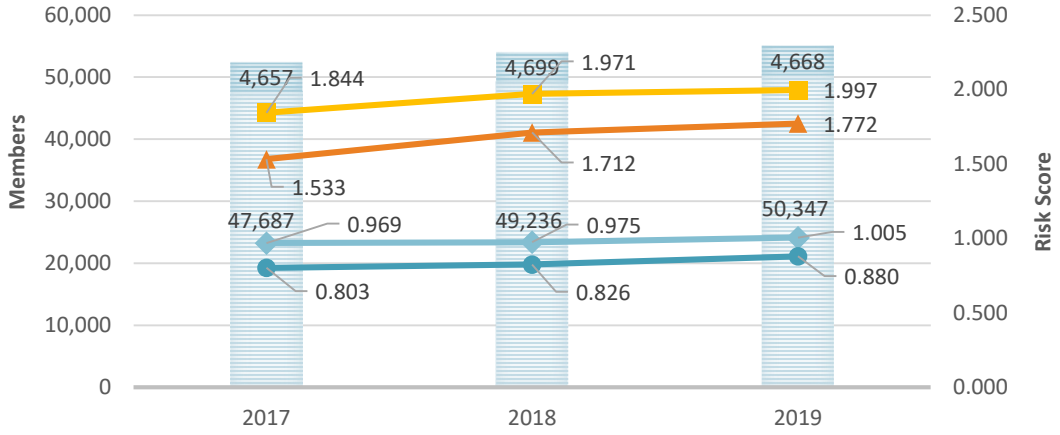
Concurrent Risk scores increased by 2.81% and Prospective scores increased by 1.30% between 2018 and 2019

Medicare population concurrent scores(5.192) are higher than last year's projections (4.758). This is indicative of the possibility of acute exacerbations of chronic conditions



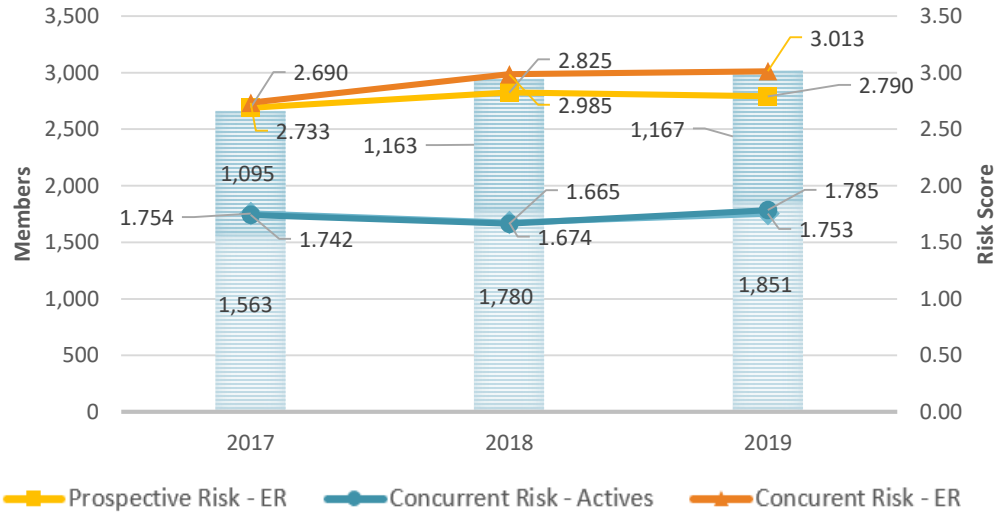
Health Risk Prediction – Active and Early Retirees – by Plan

KAISER PERMANENTE



Kaiser members concurrent score of .880 is less than the "average" beneficiary (1.0) and better than the projected scores. The prospective and concurrent risk increased over the previous period.

UHC PPO (CITY PLAN)

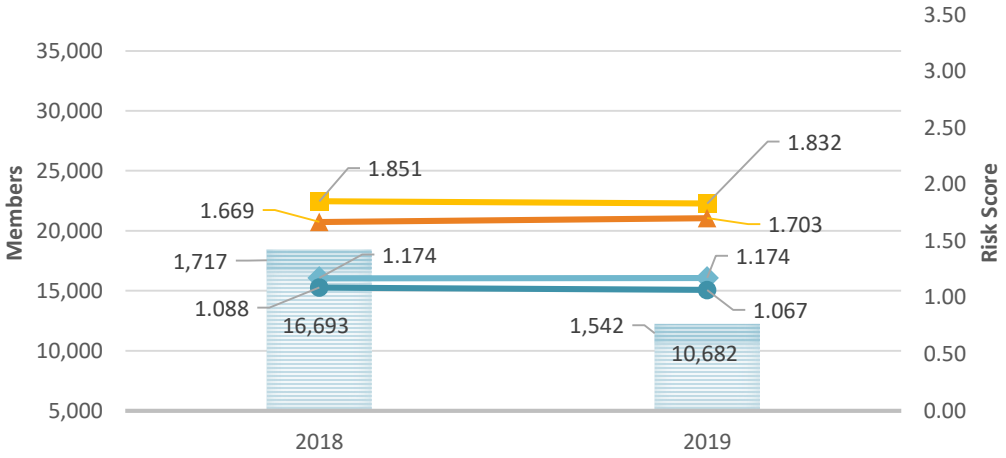


Members enrolled in the UHC PPO (City Plan) have the greater severity of risk amongst the SFHSS commercial population.

Members Active | Members ER | Prospective Risk - Actives | Prospective Risk - ER | Concurrent Risk - Actives | Concurent Risk - ER

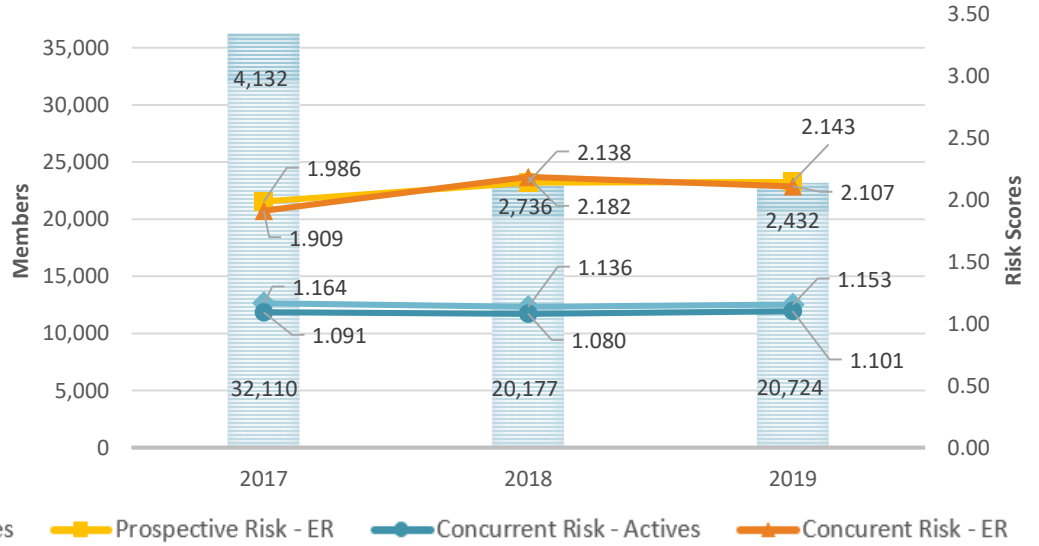
Health Risk Prediction – Active and Early Retirees – by Plan

BLUE SHIELD TRIO



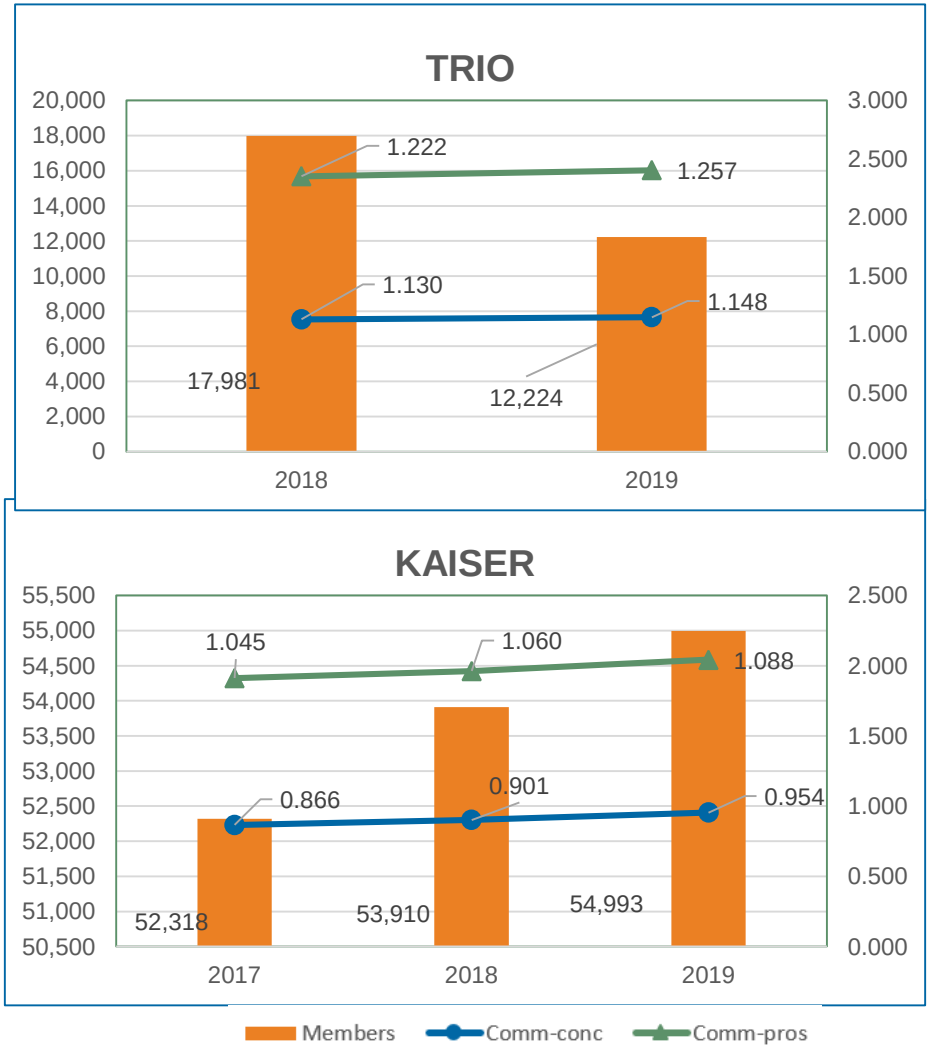
Prospective risk scores for the active population enrolled in Trio remained flat and decreased slightly for early retirees.

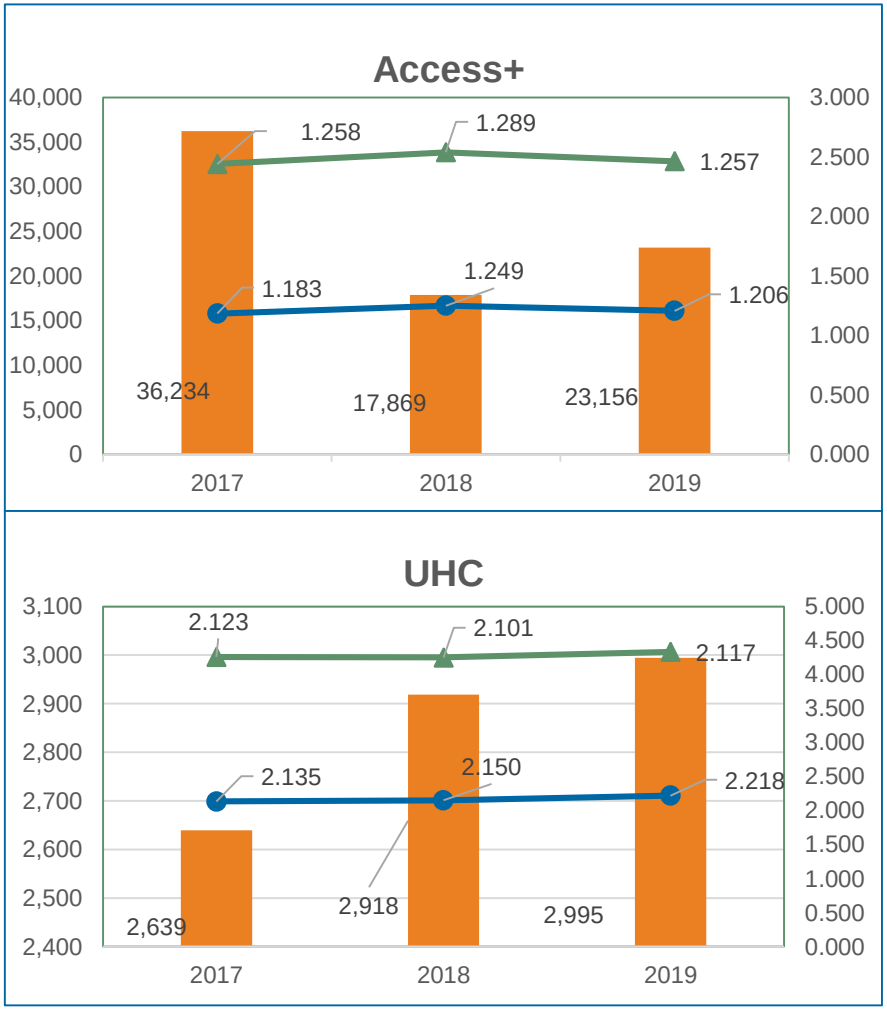
BLUE SHIELD ACCESS+



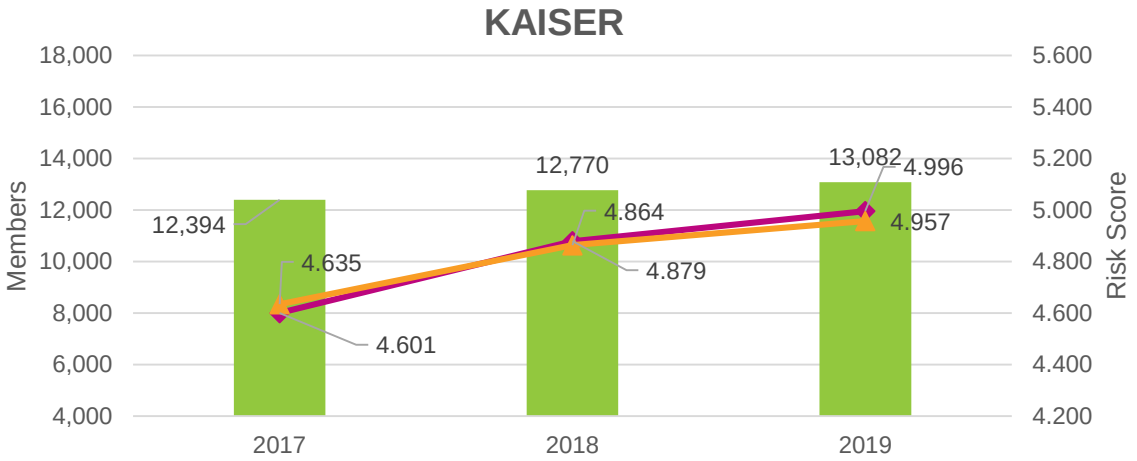
Within the Blue Shield Access+ plan, the early retiree population's concurrent risk decreased, and the prospective risk rose by .22%. While the active population had slight increases in risk scores, the early retiree risk is twice that of the actives.

Health Risk Prediction – Commercial population– by Plan

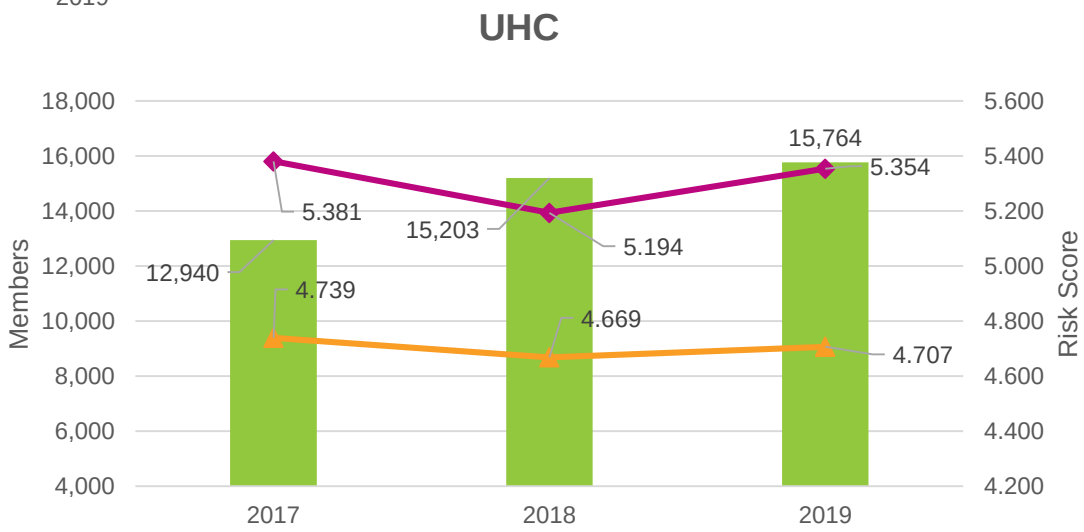




Health Risk Prediction – Medicare population– by Plan

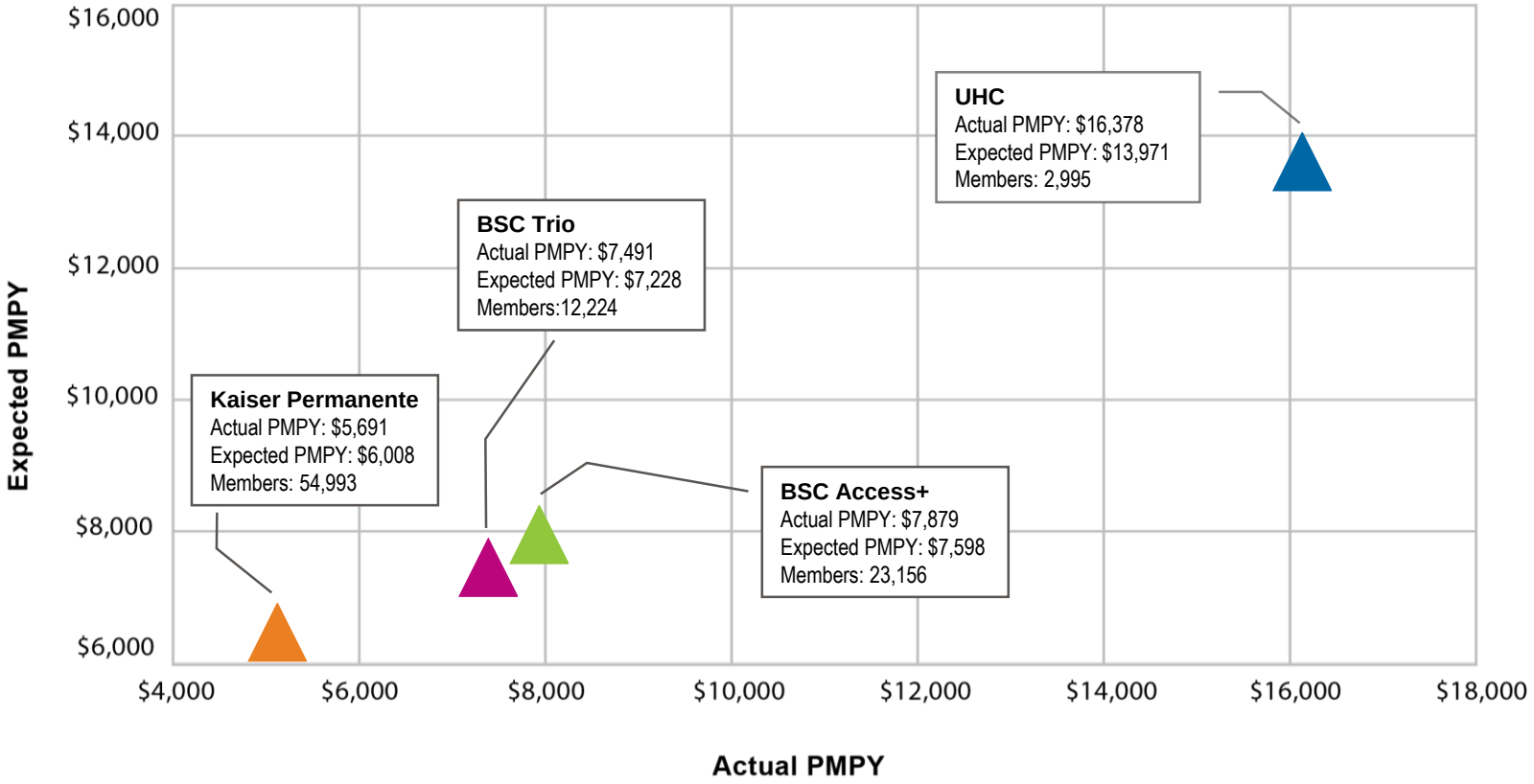


Prospective risk scores for the Medicare population enrolled in Kaiser exceed UHC risk scores. The concurrent risk score for UHC Medicare enrollees is significantly higher than the Kaiser plans.



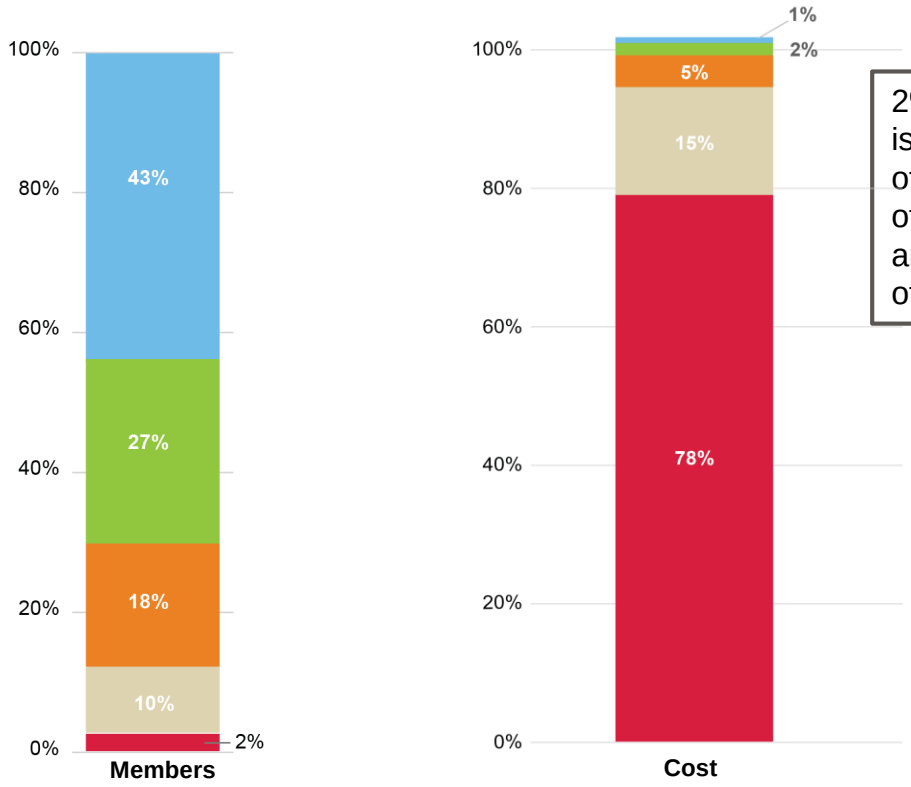
Plan Performance by Actual PMPY, Expected PMPY
Commercial Population

Actual PMPY are the Allowed costs for Medical and Pharmacy Claims. UHC, Trio and Access+ costs are higher than the dynamically adjusted Expected PMPY. Kaiser is below the Expected PMPY level hence Kaiser is more efficient.



Risk bands group patients in risk categories from Healthy to In Crisis.

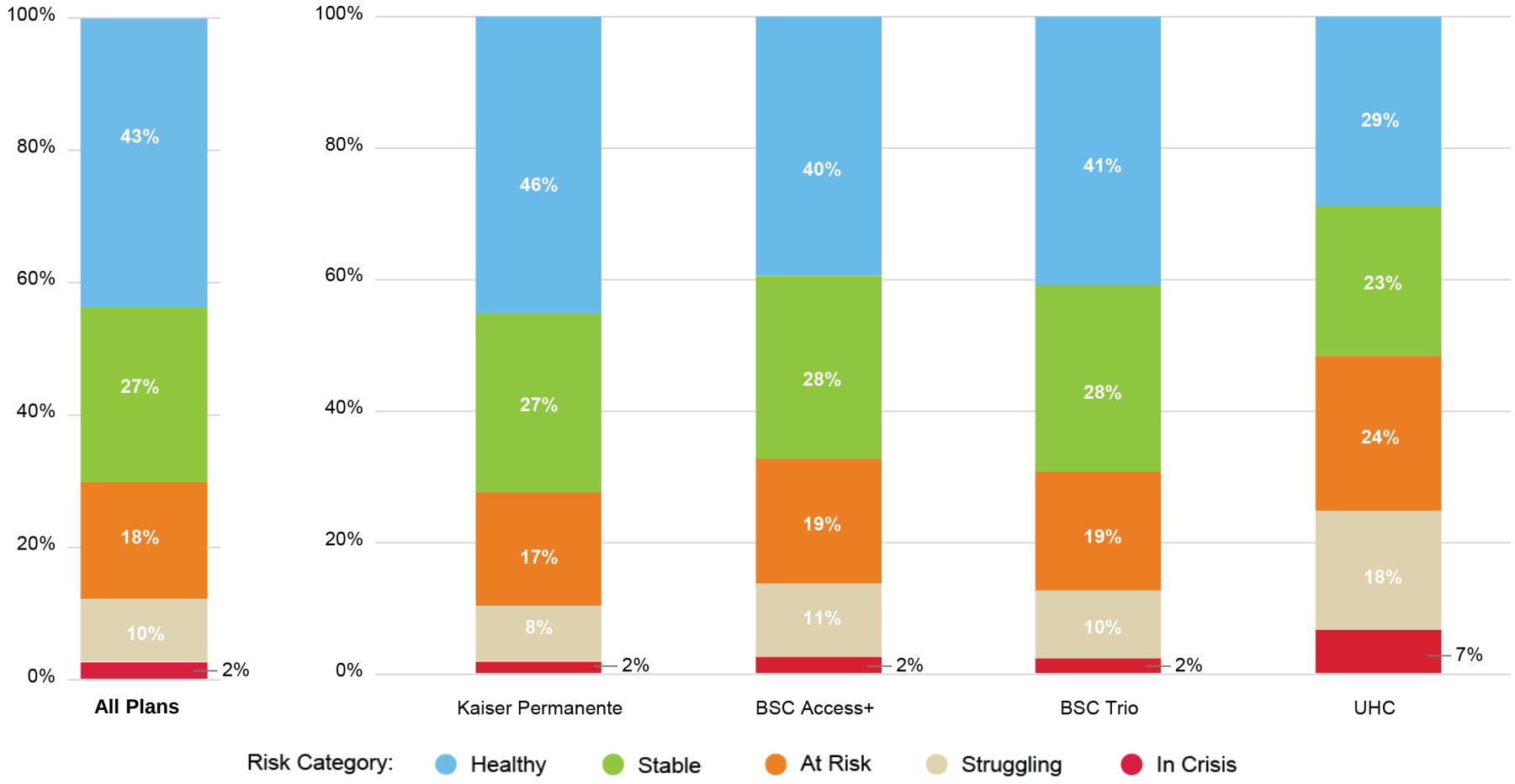
Members and Allowed Amount PMPY Distribution by Risk Category - Commercial Population



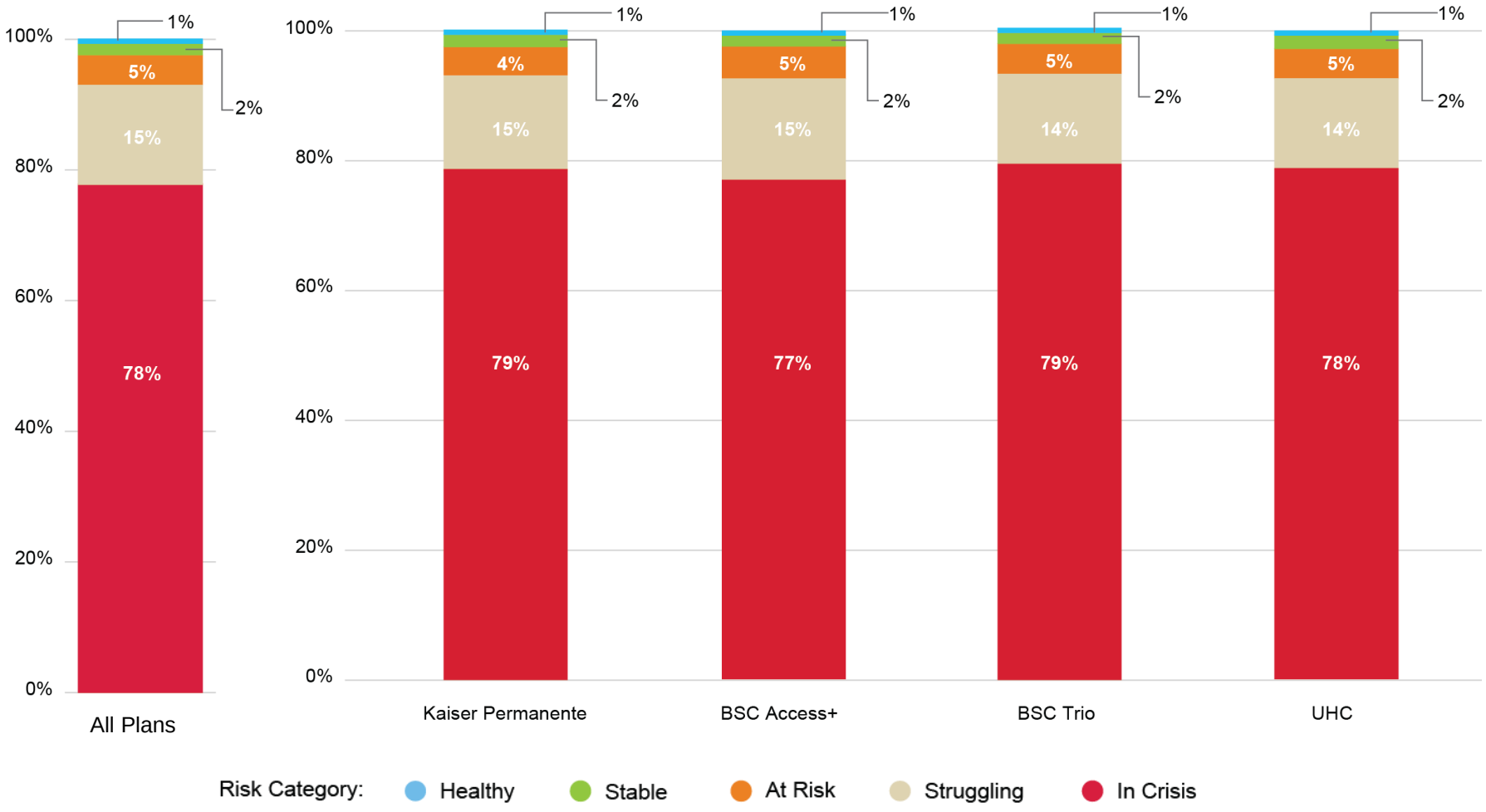
2% of our commercial population is **In Crisis** category costing 78% of the allowed amount PMPY. 70% of our members are in **Healthy** and **Stable** categories costing 3% of the allowed amount.

Healthy patients are infrequent or non-utilizers being treated for the occasional low-severity acute conditions.
Stable patients are somewhat active utilizers being treated for low-severity acute conditions
At Risk patients are active utilizers most often being treated for medium severity acute conditions and low severity chronic conditions
Struggling patients are heavy utilizers most often being treated for high severity acute conditions and medium severity chronic conditions
In Crisis patients are heavy utilizers most often being treated for multiple severe acute and/or chronic conditions

Member Distribution by Plan and Risk Category – Commercial Population



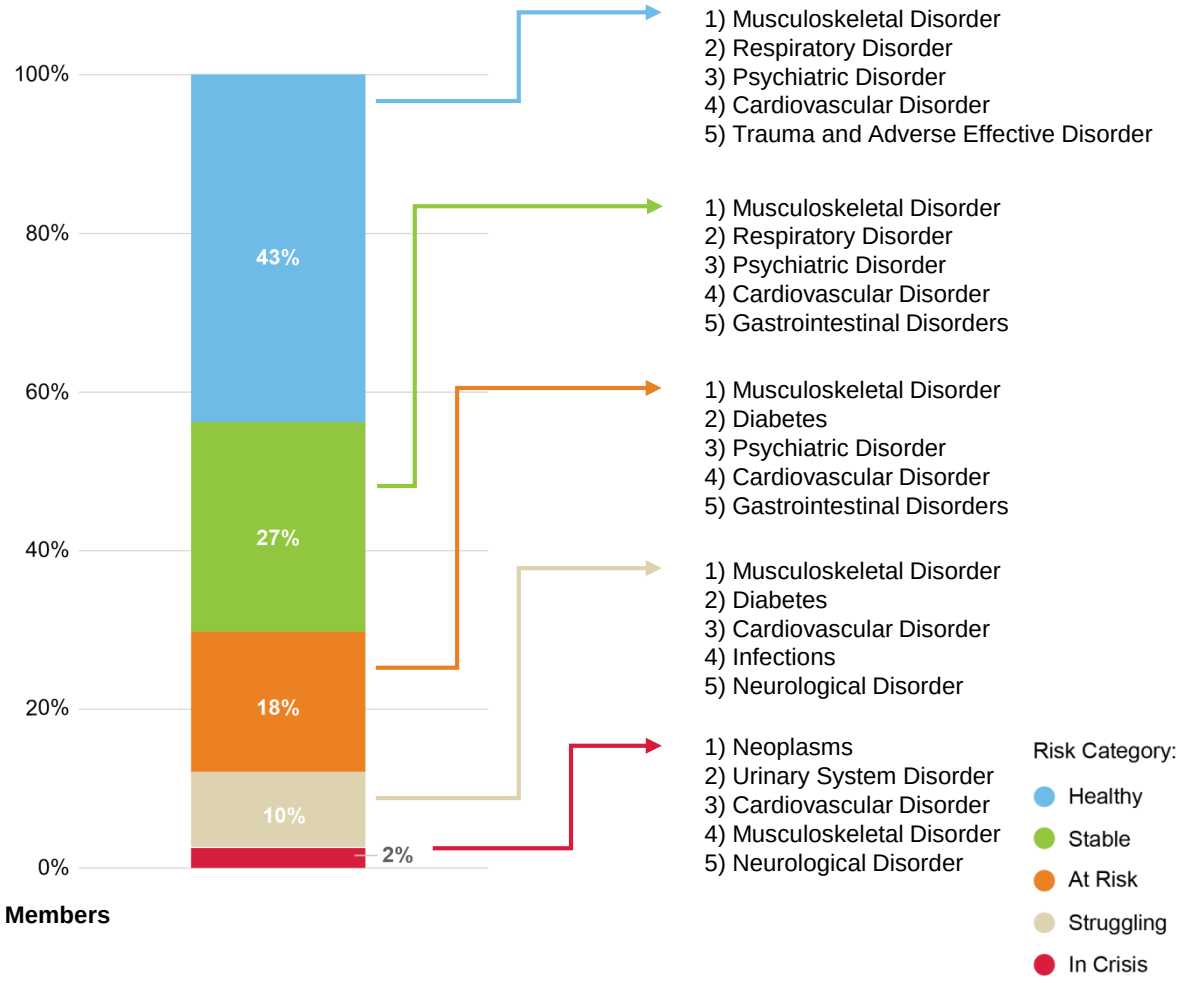
Allowed Amount PMPY Distribution by Plan and Risk Category – Commercial Population



Major Health Conditions and Disorders by Risk Band Profiles
Commercial Population

Each risk band is categorized by the top 5 health conditions driving the risk. Musculoskeletal disorders are represented in each risk category and in 4/5 categories has the highest percent contribution.

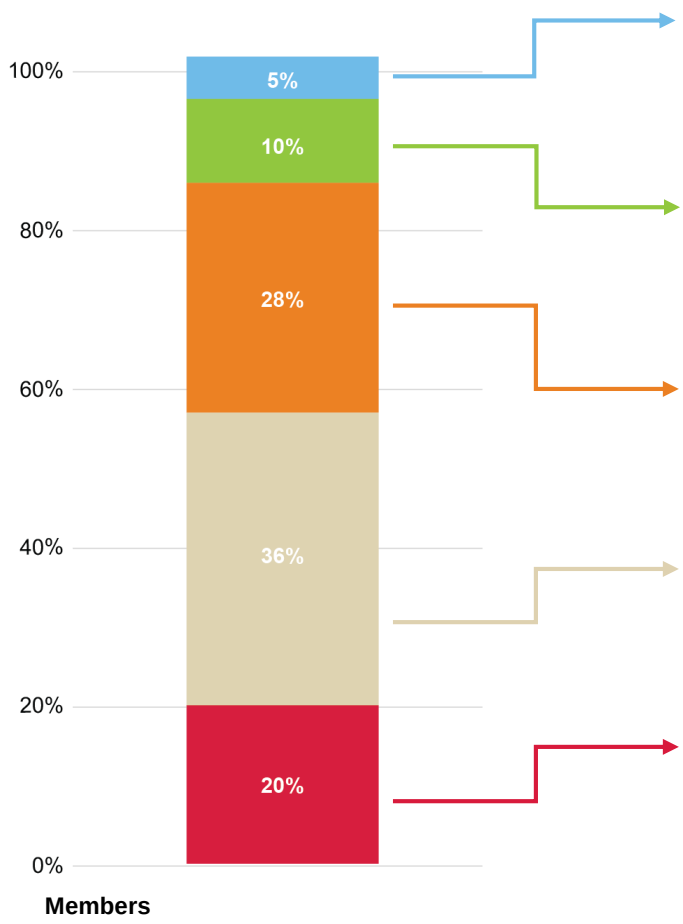
Risk Category of Continuously Enrolled 2017 vs 2019		
Lower Risk	Same Risk	Higher Risk
23%	49%	28%



Major Health Conditions and Disorders by Risk Band Profiles
Medicare Population

Musculoskeletal and cardiovascular disorders are prevalent in each of the risk categories

Risk Category of Continuously Enrolled 2017 vs 2019		
Lower Risk	Same Risk	Higher Risk
19%	50%	31%



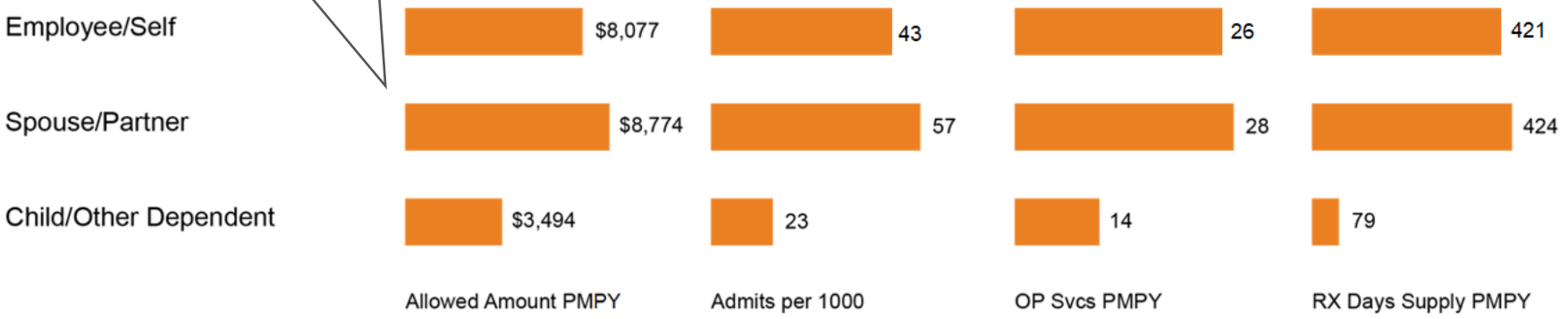
Risk Adjusted Comparison of Plan Performance based on Inpatient Admits Per 1000 – Current Period

Using risk adjustment to evaluate performance, Trio is less efficient than previous year in the active population and is more efficient than previous year for the early retirees. Access+ ratio improved over previous year performance for early retirees. Admits for UHC PPO early retiree population were higher than expected based on risk adjustment.

ACTIVES						
	Lives	**Risk Score Concurrent**	**Admits Per 1000 Acute**	**Dynamic Adjustment**	**Ratio**	**Previous Year Ratio**
Blue Shield Access+	20,724	1.101	42.12	42.94	1.0	1.0
Blue Shield Trio	10,682	1.067	40.82	41.19	1.0	0.9
Kaiser Permanente	50,347	0.880	33.29	32.25	1.0	1.0
UHC PPO (City Plan)	1,851	1.785	60.50	78.00	0.8	0.8
TOTAL	**83,604**	**0.978**	**37.04**	**37.06**	**1.0**	**1.0**
EARLY RETIREES						
Blue Shield Access+	2,432	2.107	65.79	67.88	1.0	1.1
Blue Shield Trio	1,542	1.703	50.59	53.48	0.9	1.0
Kaiser Permanente	4,668	1.772	53.98	54.55	1.0	1.0
UHC PPO (City Plan)	1,167	3.013	108.82	101.79	1.1	0.9
TOTAL	**9,809**	**1.992**	**62.90**	**63.31**	**1.0**	**1.0**
MEDICARE RETIREES						
KP Senior Advantage	13,082	4.996	146.16	156.84	0.9	.9
UHC MA PPO	15,764	5.354	180.34	171.45	1.1	1.1
TOTAL	**28,846**	**5.192**	**164.84**	**164.83**	**1.0**	**1.0**

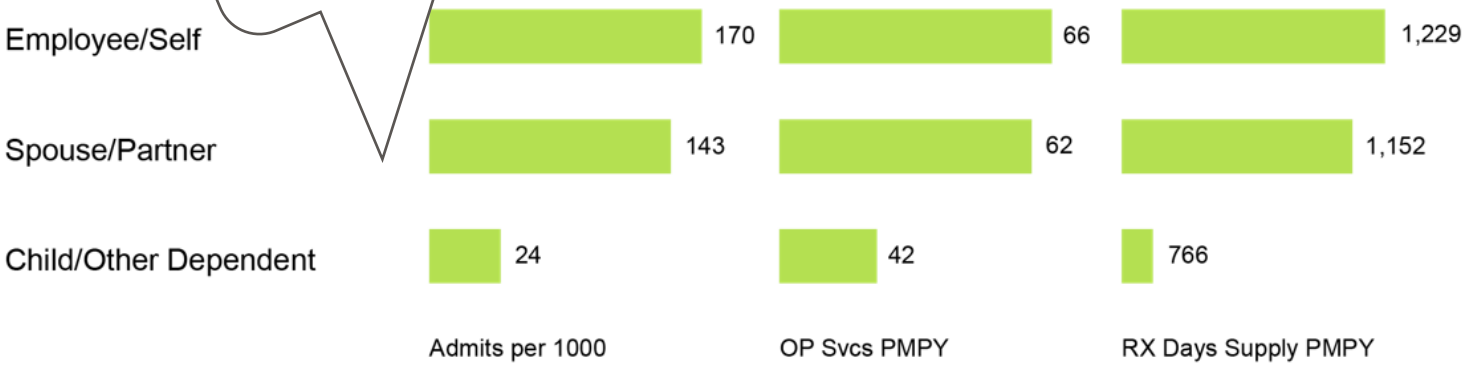
Cost and Utilization by Relationship
Commercial Population

By relationship, spouses and domestic partners have higher utilization and PMPM costs



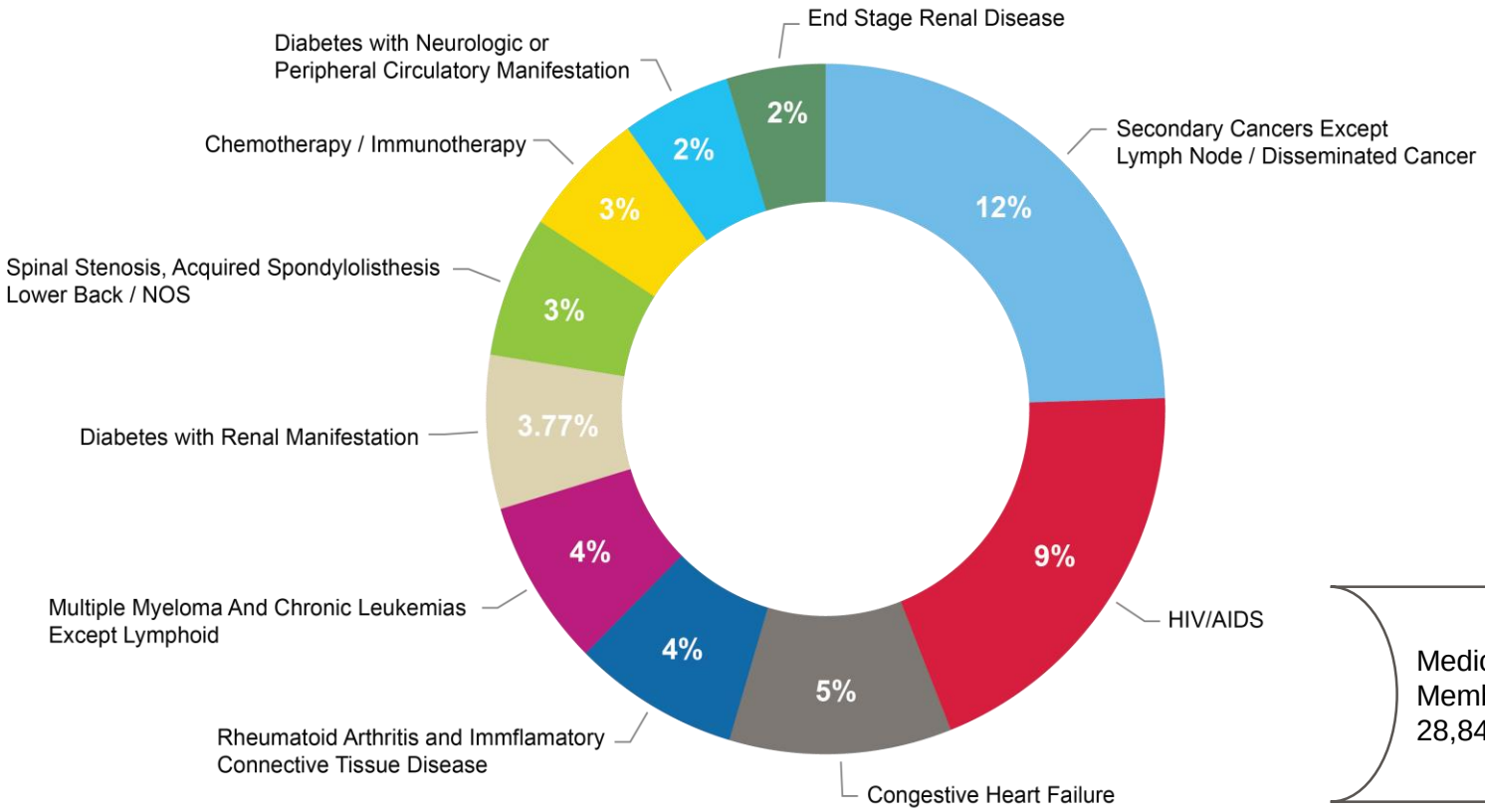
Utilization by Relationship
Medicare Population

Within the Medicare population, the subscriber incurs more of the utilization; not surprising given that most of Medicare retirees are retiree only enrollment



Top 10 Hierarchical Condition Categories –Medicare Retiree population

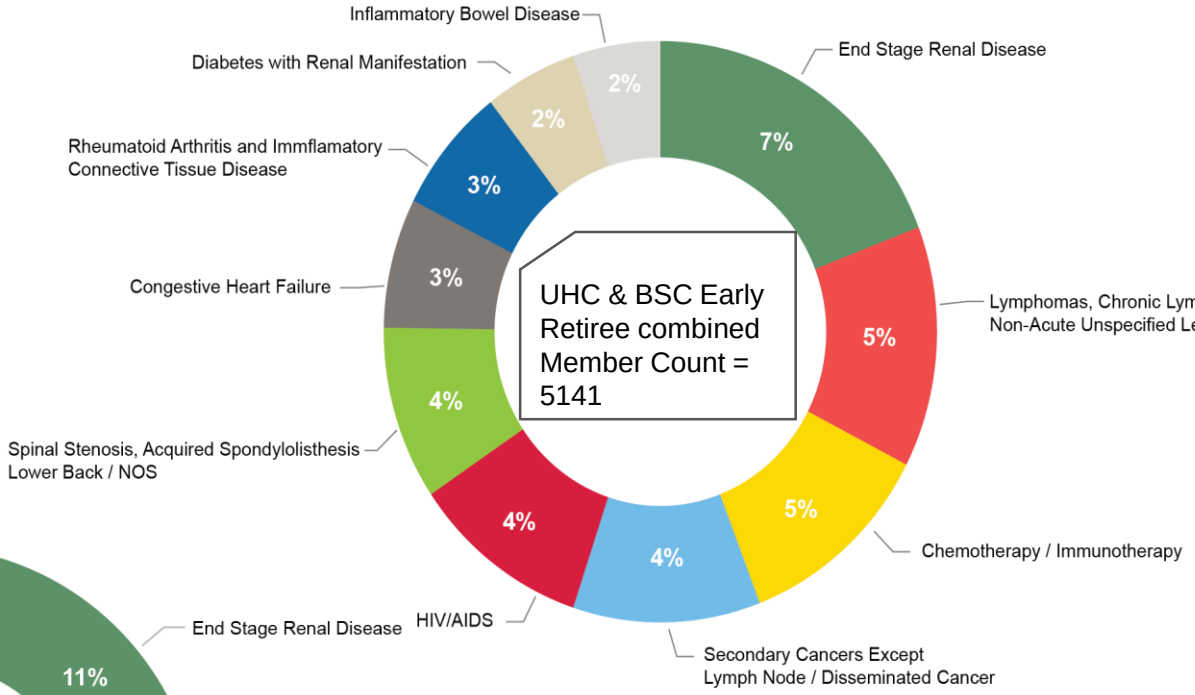
Hierarchical condition category (**HCC**) coding **is** a risk adjustment model. Medicare Advantages uses a patient's historical diagnosis mapped to HCC codes to produce a risk adjustment factor (RAF) score. This score is multiplied by the base Per Member Per Month (PMPM) capitated rate to determine the PMPM for the next coverage period.

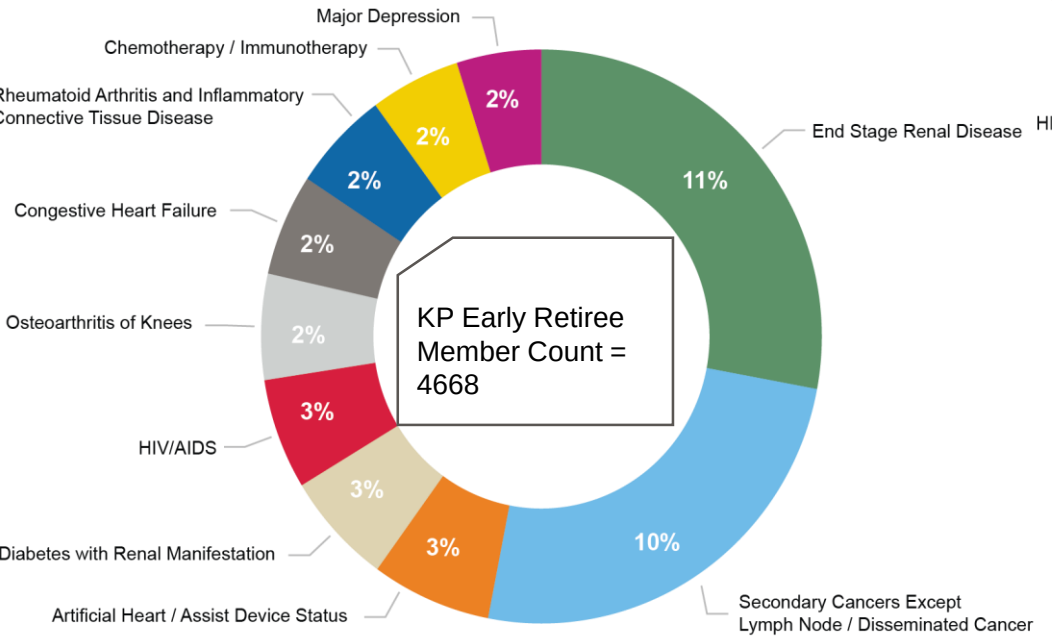


Medicare Retiree Member Count – 28,846

Top 10 Hierarchical Condition Categories – Early Retiree Population

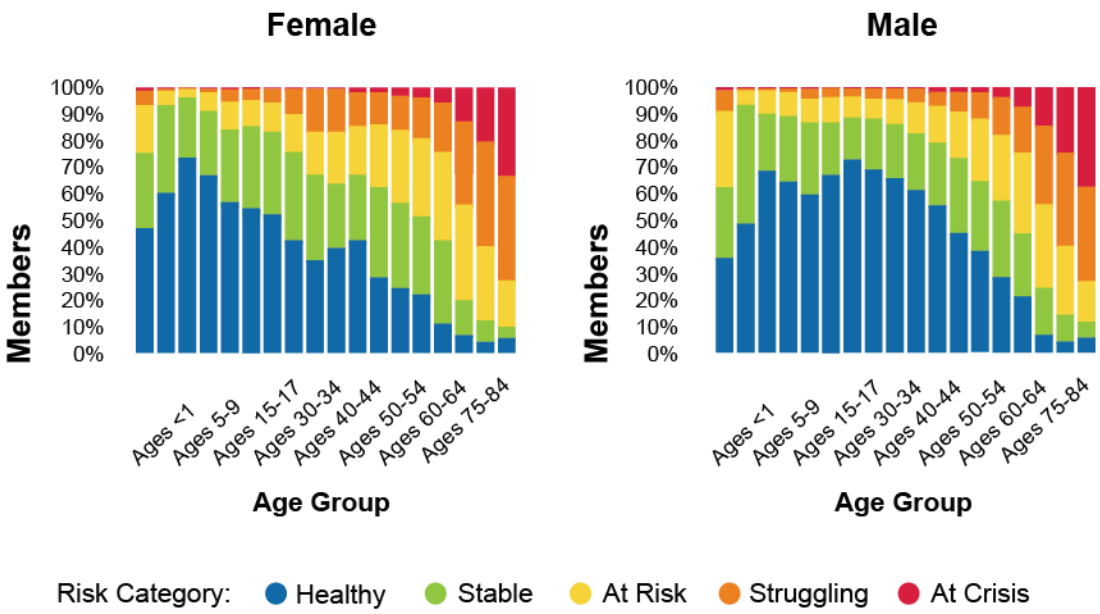
Early Retirees in UHC & BSC plans predominantly migrate into UHC MA PPO, while those enrolled in KP predominately migrate in KP Senior Advantage





ESRD is the more prevalent condition in the Early Retiree population. This population is 1/3 of Medicare Retiree population. 577 Medicare ESRD vs 875 Non-Medicare ESRD

How Risk Varies by Cohort of Age & Gender



Risk Category By Gender			
	SFHSS Population	**Female**	**Male**
Healthy	34%	45%	55%
Stable	23%	56%	44%
At Risk	21%	58%	42%
Struggling	16%	58%	42%
In Crisis	6%	50%	50%

APPENDIX

DxCG Risk Scores

- **It is important to consider that chronic conditions can become uncontrollable and acute conditions can be sudden and expensive.**
- **Risk scores enable a fair evaluation of health plans adjusting for difference in underlying population risk**
- **Risk scores trend risk over time by indicating whether a population is becoming sicker or healthier**
- **Risk scores facilitate identification of current and future high-risk patients in order to intervene and manage risk**
- The risk scores were calculated from the Cotiviti DxCG Intelligence (formerly Verisk Risk Solutions) software version 5.01 and the IBM Watson Health Advantage Suite version 5.4. This new release of DxCG Intelligence includes enhancements to the classification system and new cost weights based on a more current MarketScan development data set. The model used is the commercial population version and therefore the Medicare risk scores may calculate higher than with a Medicare model.
- Ratios are generated by risk adjusting the financial or utilization performance to measure efficiency. A ratio lower than 1.0 indicates plan performance better than expected, a ratio of 1.0 indicates performance is as expected, and a ratio greater than 1.0 indicates performance is worse than expected.

Age Distribution by Risk Category

HEALTHY			
Risk Category Healthy	**Female 18,840**	**Male 22,981**	**Grand Total 41,821**
Ages < 1	214	180	394
Ages 1-4	1,032	947	1,979
Ages 5-9	1,758	1,724	3,482
Ages 10-14	1,884	1,946	3,830
Ages 15-17	1,062	1,137	2,199
Ages 18-19	696	832	1,528
Ages 20-24	1,657	2,313	3,970
Ages 25-29	1,024	1,387	2,411
Ages 30-34	1,239	1,830	3,069
Ages 35-39	1,576	2,044	3,620
Ages 40-44	1,648	1,798	3,446
Ages 45-49	1,266	1,791	3,057
Ages 50-54	1,110	1,698	2,808
Ages 55-59	1,119	1,367	2,486
Ages 60-64	614	1,028	1,642
Ages 65-74	599	683	1,282
Ages 75-84	222	198	420
Ages 85+	120	78	198

STABLE			
Risk Category Stable	**Female 15,831**	**Male 12,688**	**Grand Total 28,519**
Ages < 1	125	126	251
Ages 1-4	576	782	1,358
Ages 5-9	529	515	1,044
Ages 10-14	681	723	1,404
Ages 15-17	519	531	1,050
Ages 18-19	378	246	624
Ages 20-24	961	505	1,466
Ages 25-29	798	386	1,184
Ages 30-34	1,095	558	1,653
Ages 35-39	952	732	1,684
Ages 40-44	984	754	1,738
Ages 45-49	1,542	1,153	2,695
Ages 50-54	1,563	1,197	2,760
Ages 55-59	1,611	1,413	3,024
Ages 60-64	1,736	1,227	2,963
Ages 65-74	1,294	1,407	2,701
Ages 75-84	399	363	762
Ages 85+	88	70	158

Age Distribution by Risk Category

AT RISK			
Risk Category At Risk	**Female 14,580**	**Male 10,647**	**Grand Total 25,227**
Ages < 1	80	144	224
Ages 1-4	102	194	296
Ages 5-9	85	258	343
Ages 10-14	199	270	469
Ages 15-17	193	168	361
Ages 18-19	136	109	245
Ages 20-24	352	247	599
Ages 25-29	330	145	475
Ages 30-34	588	260	848
Ages 35-39	754	387	1,141
Ages 40-44	759	432	1,191
Ages 45-49	1,077	691	1,768
Ages 50-54	1,245	997	2,242
Ages 55-59	1,537	1,177	2,714
Ages 60-64	1,854	1,466	3,320
Ages 65-74	3,462	2,553	6,015
Ages 75-84	1,417	934	2,351
Ages 85+	410	215	625

STRUGGLING			
Risk Category Struggling	**Female 11,316**	**Male 8,162**	**Grand Total 19,478**
Ages < 1	125	126	251
Ages 1-4	576	782	1,358
Ages 5-9	529	515	1,044
Ages 10-14	681	723	1,404
Ages 15-17	519	531	1,050
Ages 18-19	378	246	624
Ages 20-24	961	505	1,466
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Ages 60-64	1,736	1,227	2,963
Ages 65-74	1,294	1,407	2,701
Ages 75-84	399	363	762
Ages 85+	88	70	158

Age Distribution by Risk Category

IN CRISIS			
Risk Category In Crisis	**Female 3,888**	**Male 3,844**	**Grand Total 7,732**
Ages < 1	7	10	17
Ages 1-4	7	10	17
Ages 5-9	3	4	7
Ages 10-14	9	9	18
Ages 15-17	14	11	25
Ages 18-19	2	8	10
Ages 20-24	18	18	36
Ages 25-29	18	16	34
Ages 30-34	24	12	36
Ages 35-39	34	22	56
Ages 40-44	66	37	103
Ages 45-49	84	82	166
Ages 50-54	145	120	265
Ages 55-59	220	246	466
Ages 60-64	312	386	698
Ages 65-74	1,172	1,283	2,455
Ages 75-84	1,011	1,048	2,059
Ages 85+	742	522	1,264

Risk Adjusted Comparison of Plan Performance based on Inpatient Admits Per 1000 – Previous Period

ACTIVES					
	Lives	**Risk Score Concurrent**	**Admits Per 1000 Acute**	**Dynamic Adjustment**	**Ratio**
Blue Shield Access+	20,177	1.080	45.53	43.76	1.0
Blue Shield Trio	16,693	1.088	41.87	44.18	0.9
Kaiser Permanente	49,236	0.826	32.07	31.24	1.0
UHC PPO (City Plan)	1,780	1.665	57.29	75.77	0.8
TOTAL	**82,843**	**0.943**	**37.05**	**37.09**	**1.0**
EARLY RETIREES					
Blue Shield Access+	2,736	2.182	71.28	67.49	1.1
Blue Shield Trio	1,717	1.669	51.25	50.11	1.0
Kaiser Permanente	4,699	1.712	49.80	49.48	1.0
UHC PPO (City Plan)	1,163	2.985	83.43	95.75	0.9
TOTAL	**9,885**	**1.986**	**59.89**	**59.99**	**1.0**
MEDICARE RETIREES					
KP Senior Advantage	12,770	4.879	153.18	165.02	0.9
UHC MA PPO	15,203	5.194	188.71	178.83	1.1
TOTAL	**27,973**	**5.050**	**172.49**	**172.52**	**1.0**