

Visualizing ACG-Based Population Health Assessment Data for NCQA Accreditation in QlikView

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Outline

- Background
- Data Inputs
- Dataflow
- Data Visualization
- Summary



Background

- Johns Hopkins HealthCare LLC (**JHHC**) provides a full range of traditional insurance services and care management programs for several health plans
 - Populations: Department of Defense, Medicaid, Medicare Advantage and Other Plans
 - 400,000+ Members
- Johns Hopkins health plans (US Family Health Plan, Priority Partners, EHP) are awarded National Committee for Quality Assurance (**NCQA**) Accreditation



Background

- NCQA is a private, not-for-profit organization dedicated to improving health care quality
- This NCQA project assesses the characteristics and needs of its member population and relevant subpopulations
 - Children and adolescents
 - Individuals with disabilities
 - Individuals with Serious and Persistent Mental Illness (**SPMI**)

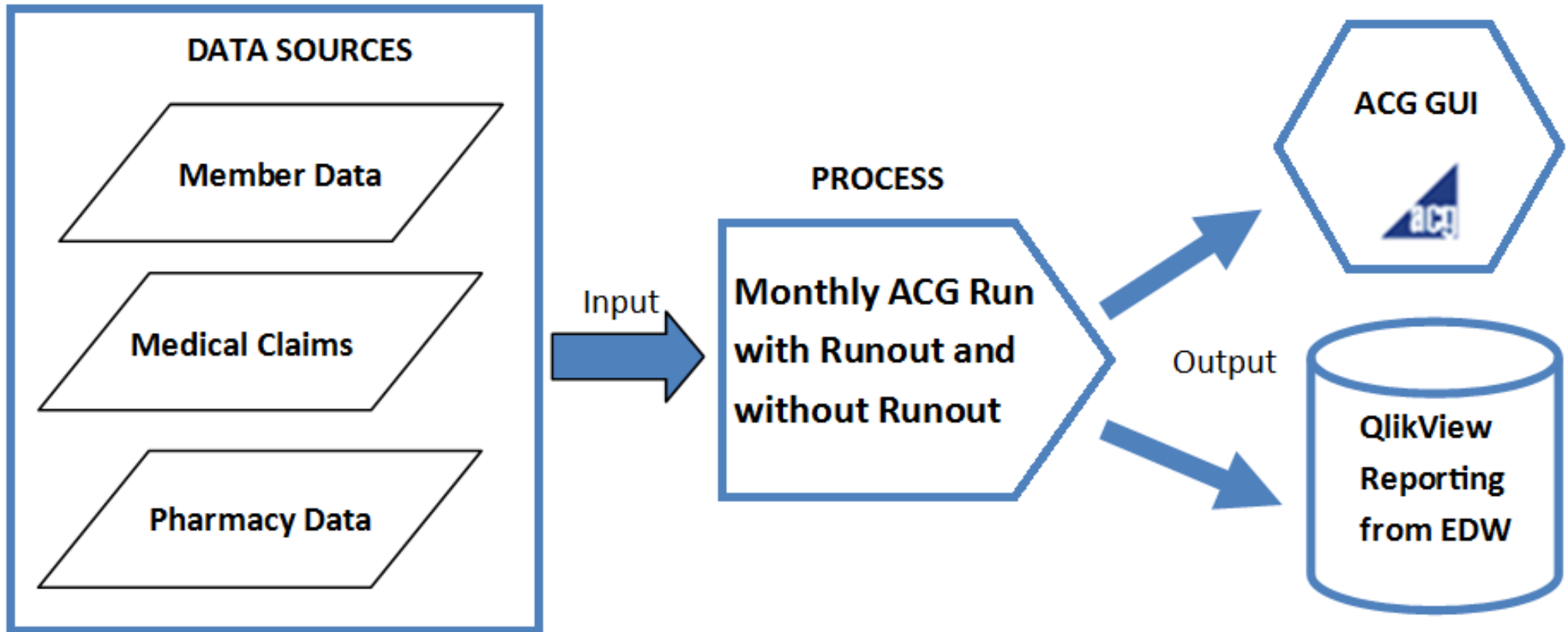


Data Inputs

- ACG Data
 - Help to understand the health status of individual patients, subgroups and whole populations
 - Available ACG data, such as demographics, plan enrollment length, costs, utilization counts, current and future risk indicators, condition markers, etc.
- Other data for identifying sub-populations
 - Claims-based flags for disability and SPMI
 - Plan enrollment data for age (i.e. children & adolescents)



Dataflow



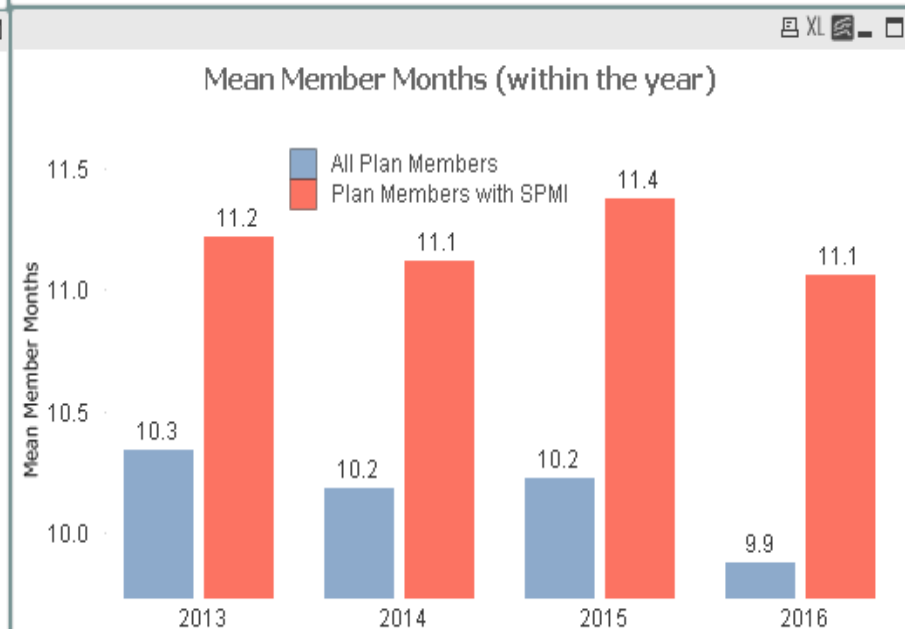
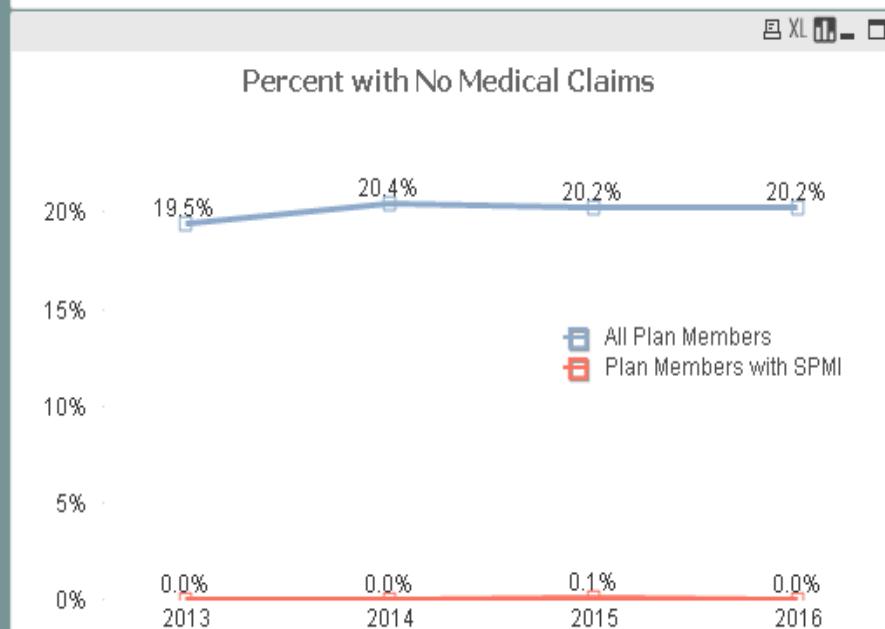
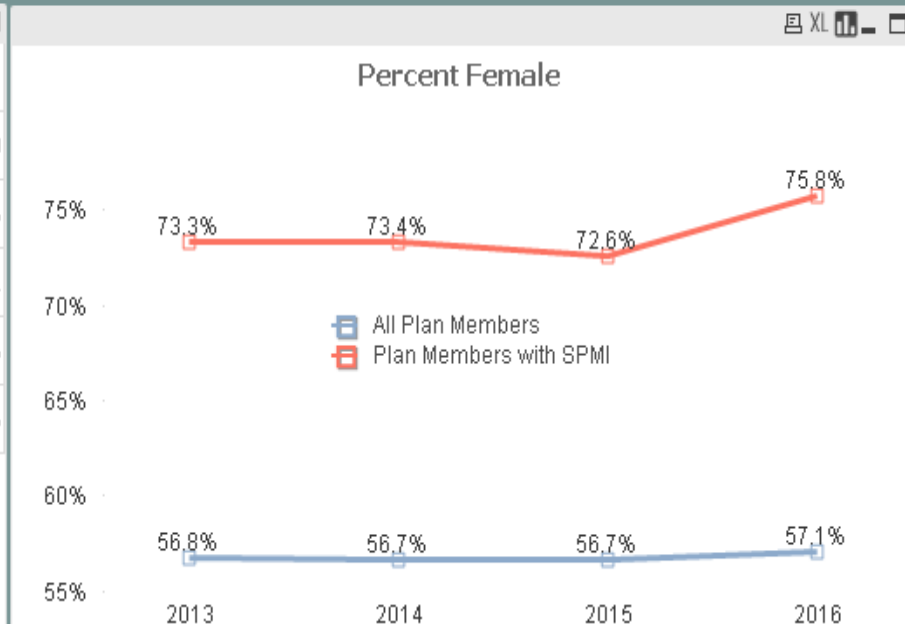
Data Visualization – Demographics

Plan Members with SPMI • **Member Demographics** • Morbidity • Costs by Morbidity • ED Visit and Hospital Use •

Calendar Year	Member Demographics - CY2016		
2013	Condition	All Plan Members	Plan Members with SPMI
2014	N	71173	2990
2015	%Female	57.1%	75.8%
2016	Mean_Member_Months	9.9	11.1
	%with_No_Medical_Claim	20.2%	0.0%
	%of_Mbrs_Accounting_for_70% _of_Healthcare_Expenditure	9.6%	19.6%

ReportType

Johns Hopkins Plan
Plan Children and Adolescents
Plan Members with Disabilities
Plan Members with SPMI



Data Visualization – Morbidity

Plan Members with SPMI • Member Demographics • **Morbidity** • Costs by Morbidity • ED Visit and Hospital Use •

Calendar Year

2013
2014
2015
2016

ReportType

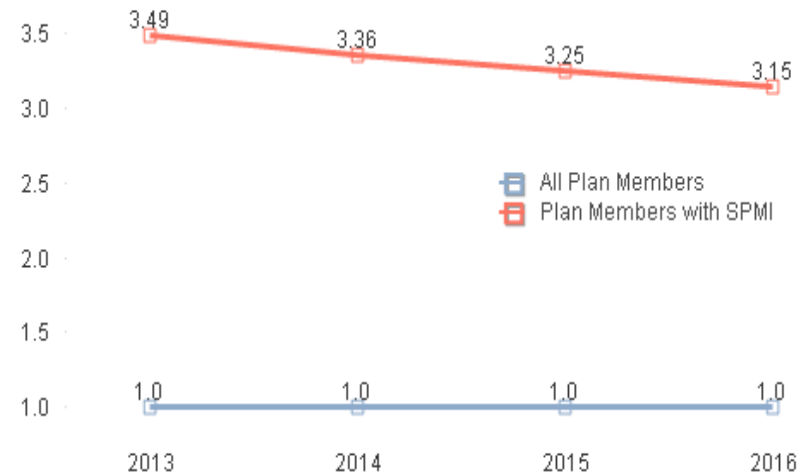
Johns Hopkins Plan
Plan Children and Adolescents
Plan Members with Disabilities
Plan Members with SPMI

Morbidity Profile Summary Measures - CY2016

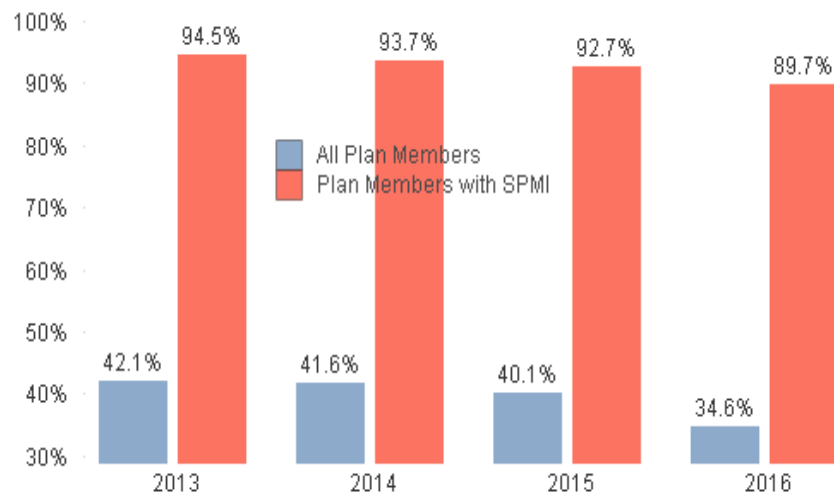
Condition	All Plan Members	Plan Members with SPMI
Mean_ACG_Risk_Score_Ratio	1.00	3.15
Mbrs_with_1_or_More_Chronic_Conditions	34.6%	89.7%
Mbrs_with_0_Chronic_Conditions	65.4%	10.3%
Mbrs_with_1_Chronic_Condition	16.1%	18.6%
Mbrs_with_2_Chronic_Conditions	7.7%	19.0%
Mbrs_with_3_or_More_Chronic_Conditions	10.8%	52.1%

* Mean ACG Risk Score Ratio is calculated as the average ACG risk score for SPMI divided by the average risk score for the entire population.
A score less than 1 indicates that this plan's SPMI members are healthier.
A score greater than 1 indicates that this plan's SPMI members are sicker.

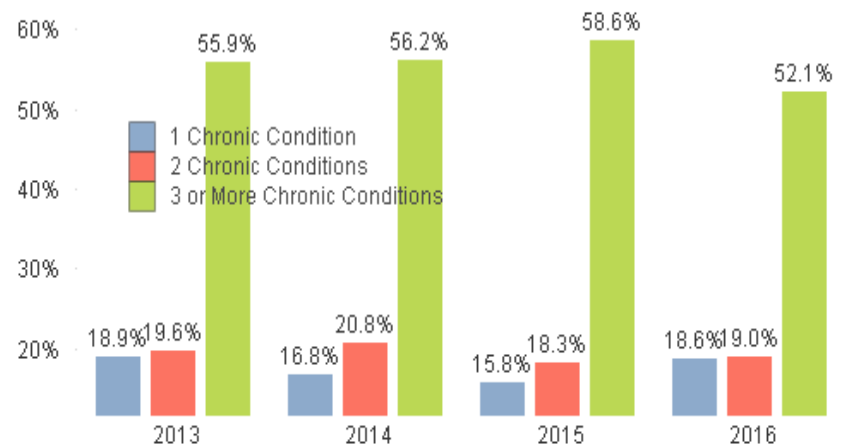
Mean ACG Risk Score Ratio



Percent of Members with 1 or More Chronic Conditions



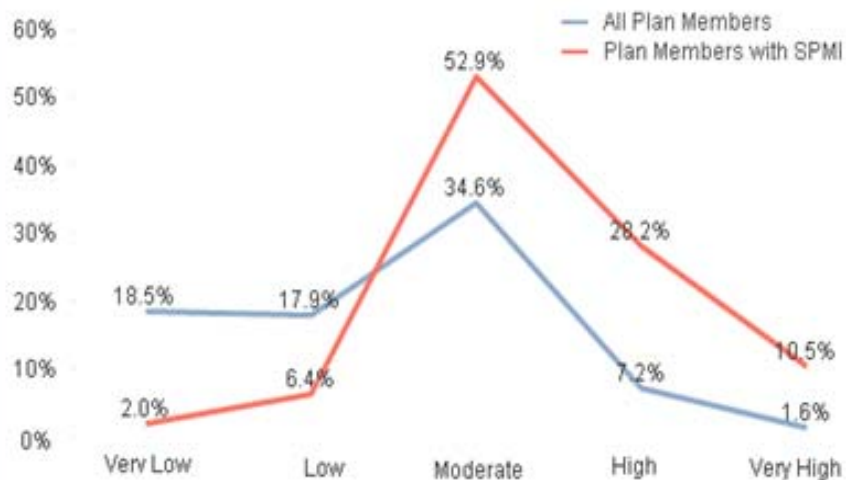
Members with One, Two, Three or more Chronic Conditions - Plan Members with SPMI



Data Visualization – Morbidity

Plan Members with SPMI • Member Demographics • **Morbidity** • Costs by Morbidity • ED Visit and Hospital Use •

Morbidity Level Distribution - CY2016



Morbidity Level Distribution Plan Members with SPMI



Prevalence Rate per 1000 for Selected Conditions - CY2016

Condition	All Plan Members	Plan Members with SPMI
Asthma	97.1	222.4
Anxiety_Disorders	39.2	291.3
Cancer	12.7	41.5
Congestive_Heart_Failure	5.9	27.8
Chronic_Renal_Failure	4.1	
COPD	3.0	21.1
Depression	114.6	827.1
Diabetes	43.2	122.4
Headaches	9.0	34.8
Hypertension	135.9	344.1
HIV_AIDS	5.2	11.7
Ischemic_Heart_Disease	7.5	30.4
Low_Back_Pain	35.9	115.4
Obesity	66.7	238.1
Substance_Abuse	14.0	89.3
Smoking	27.8	118.1

Prevalence Rate per 1000 for Selected Conditions - Plan Members with SPMI

Condition	2014	2015	2016
Asthma	187.9	221.2	222.4
Anxiety Disorders	319.9	293.7	291.3
Cancer	31.3	28.3	41.5
Congestive Heart Failure	13.4	30.5	27.8
Depression	953.0	902.8	827.1
Diabetes	100.7	122.6	122.4
Headaches	38.0	39.9	34.8
Hypertension	326.6	354.6	344.1
HIV/AIDS	11.2	10.2	11.7
Ischemic Heart Disease	20.1	26.8	30.4
Low Back Pain	145.4	150.8	115.4
Obesity	161.1	203.0	238.1
Substance Abuse	152.1	108.0	89.3
Smoking	82.8	112.4	118.1

Data Visualization – Costs by Morbidity

Plan Members with SPMI • Member Demographics • Morbidity • **Costs by Morbidity** • ED Visit and Hospital Use •

Calendar Year

2013
2014
2015
2016

ReportType

Johns Hopkins Plan
Plan Children and Adolescents
Plan Members with Disabilities
Plan Members with SPMI

Total Costs PMPY for Number of Chronic Conditions - CY2016

XL

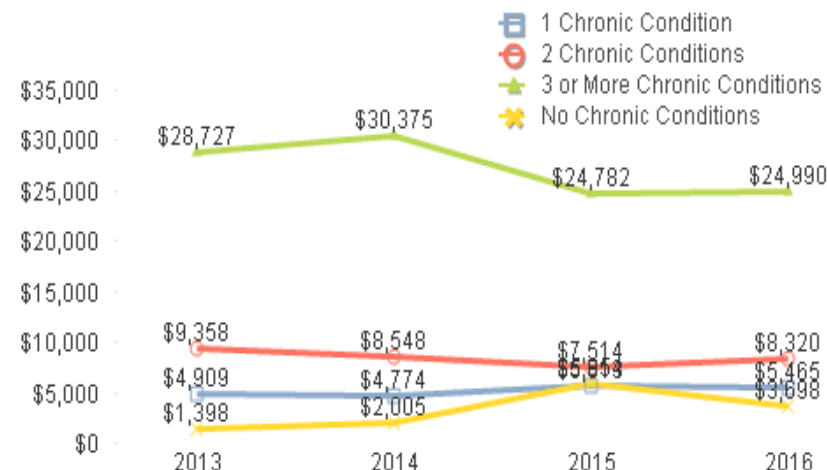
Condition	SPMI N	SPMI Cost	All Plan N	All Plan Cost
No_Chronic_Conditions	307	\$3,698	46,520	\$1,097
One_Chronic_Condition	557	\$5,465	11,439	\$4,003
Two_Chronic_Conditions	568	\$8,320	5,502	\$6,731
Three_or_More_Chronic_Conditions	1,558	\$24,990	7,712	\$18,471

Mean Total Costs PMPY for Selected Conditions - CY 2016

XL

Condition	SPMI N	SPMI Cost	All Plan N	All Plan Cost
Asthma	665	\$22,672	6,912	\$9,254
Anxiety	871	\$22,229	2,788	\$13,194
Cancer	124	\$48,241	904	\$34,138
Congestive_Heart_Failure	83	\$69,617	417	\$44,796
Chronic_Renal_Failure	-	-	289	\$40,899
COPD	63	\$53,087	211	\$32,768
Depression	2,473	\$17,016	8,154	\$10,244
Diabetes	366	\$31,630	3,074	\$14,676
Headaches	104	\$25,720	642	\$13,153
Hypertension	1,029	\$26,603	9,671	\$11,640
HIV_AIDS	35	\$37,670	369	\$22,033
Ischemic_Heart_Disease	91	\$50,273	534	\$27,261
Low_Back_Pain	345	\$24,168	2,553	\$12,491
Obesity	712	\$23,045	4,748	\$12,315
Substance_Abuse	267	\$30,610	999	\$19,063
Smoking	353	\$25,543	1,980	\$13,419

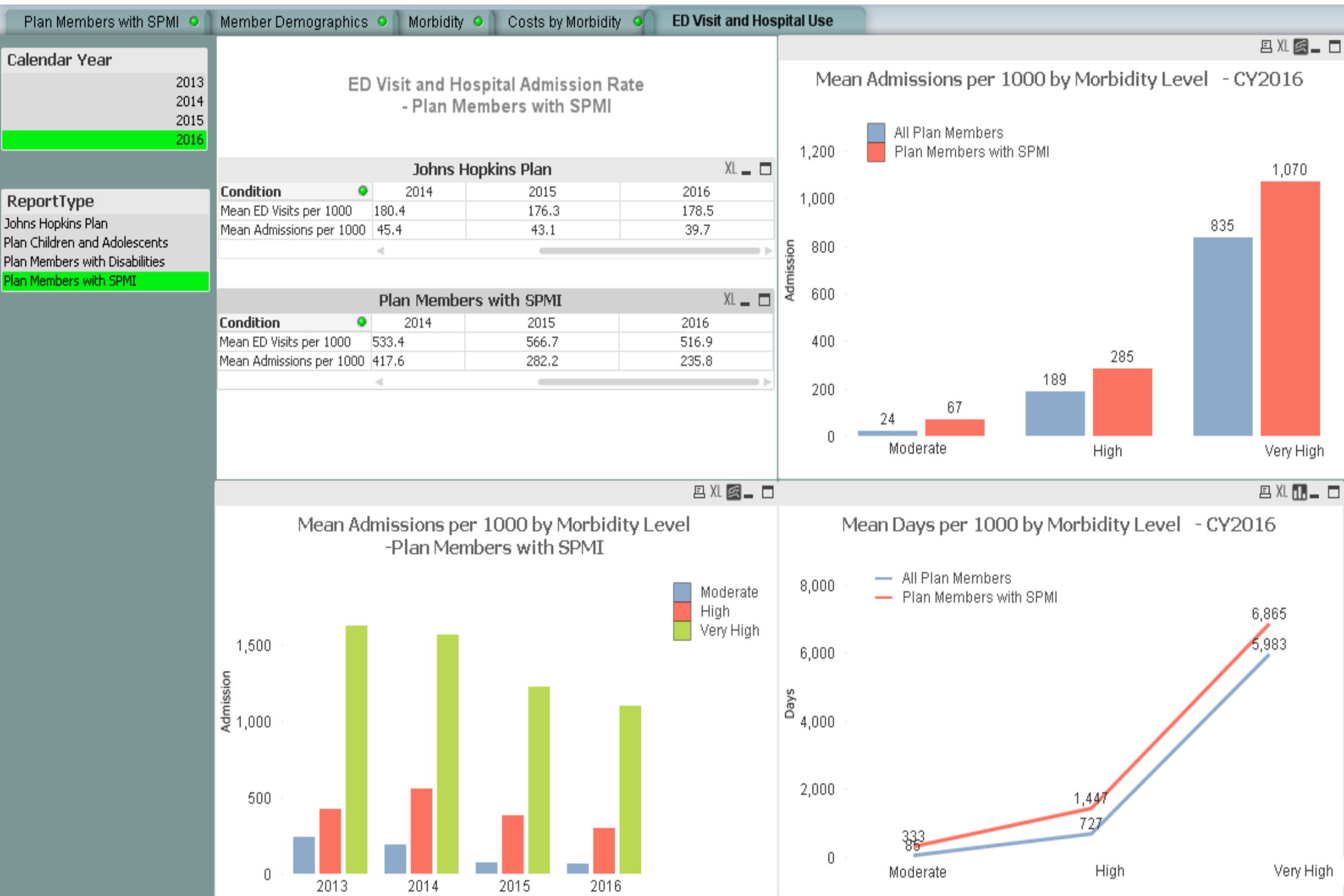
Total Costs PMPY for Number of Chronic Conditions - Plan Members with SPMI



Mean Total Costs PMPY for Selected Conditions - Plan Members with SPMI

Condition	2014	2015	2016
Asthma	\$25,881	\$22,921	\$22,672
Anxiety Disorders	\$29,865	\$21,518	\$22,229
Cancer	\$56,910	\$69,556	\$48,241
Congestive Heart Failure	\$125,893	\$76,826	\$69,617
Depression	\$20,353	\$17,668	\$17,016
Diabetes	\$43,911	\$36,247	\$31,630
Headaches	\$93,528	\$35,918	\$25,720
HIV/AIDS	\$18,708	\$23,427	\$37,670
Hypertension	\$30,071	\$28,480	\$26,603
Ischemic Heart Disease	\$62,953	\$71,001	\$50,273
Low Back Pain	\$32,232	\$21,661	\$24,168
Obesity	\$39,282	\$28,549	\$23,045
Smoking	\$32,215	\$27,056	\$25,543
Substance Abuse	\$46,001	\$30,144	\$30,610

Data Visualization – ED Visit and Hospital Use



Summary

ACG System

- Perform population level analyses
- Meet accreditation standards
- Fulfill health plan operations

QlikView

- Integrate multiple data sources
- Visualize dynamic data



Thank You!

