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## DEMOGRAPHIC AND STAR RATING ANALYSIS MSHO VS MA-PD

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### UCARE MSHO AND MEDICARE ADVANTAGE POPULATION

#### Questions Addressed:

This report examines the following questions in regards to the UCare MSHO and Medicare Advantage Population:

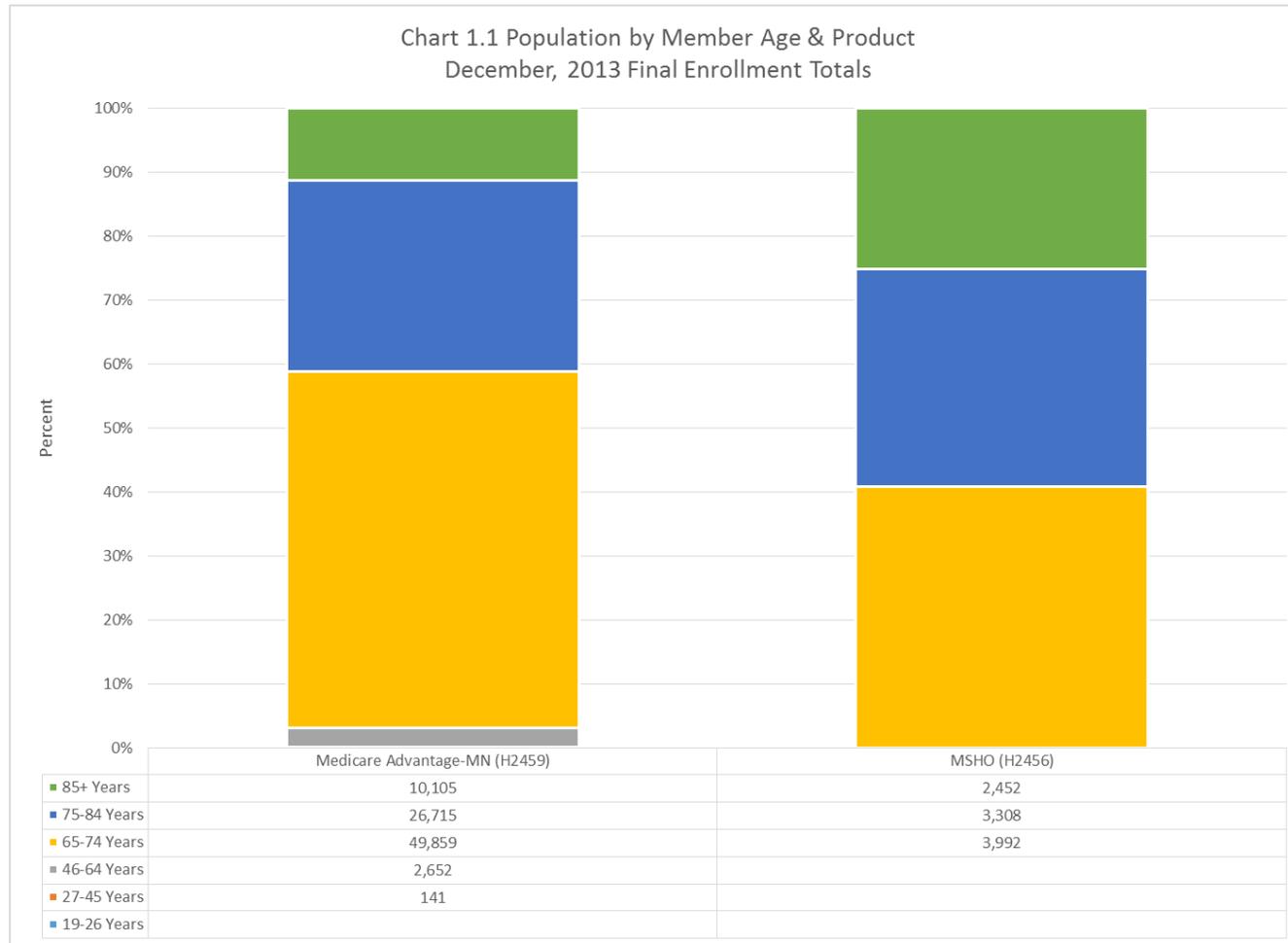
- How many members are served by UCare in these populations? What is the age distribution?
- What is the Medicare/Medicaid eligibility of the membership?
- What geographic zones are represented for the membership?
- What is the diagnosis profile and utilization pattern of each population?
- What facilities serve each population?

#### Measurement Methodology:

This report uses enrollment and demographics information from the time period December, 2013 to identify and report on population demographics. Diagnostic and risk profiling information was obtained using the paid medical and pharmacy claims that were entered into the Johns Hopkins ACG 10.0 Elderly model for the period of January through December of 2013.

**Measurement and Analysis (Population Count):**

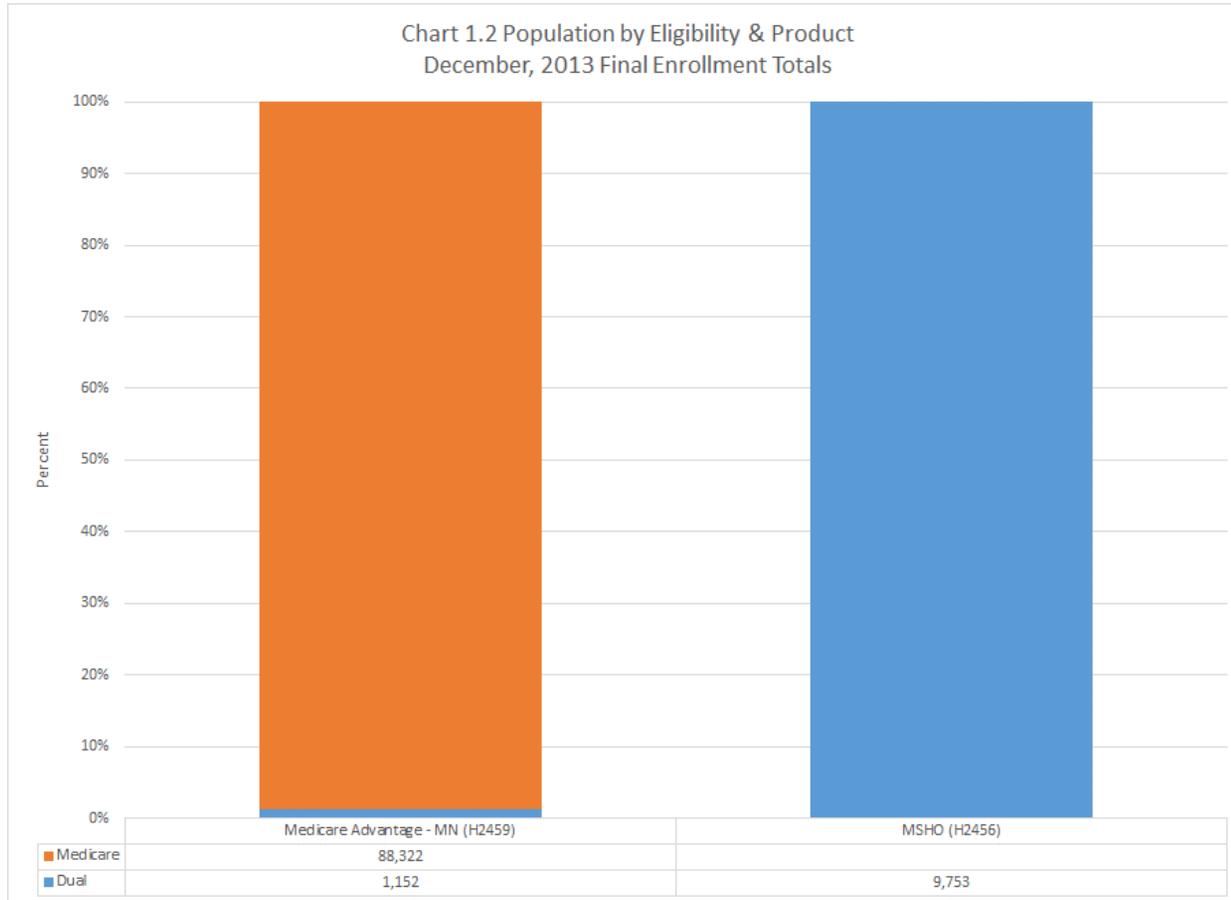
Chart 1.1 summarizes unique population count in the by product.



In general, the population is older in the MSHO product. The average age of an MSHO member in the measurement period was 78 as compared to the average age of 74 for the Medicare Advantage member. 25.1% of the MSHO population was in the 85+ age band as compared to 11.3% in the Medicare Advantage product. The 75-84 age band comprised of 33.9% of the MSHO population as compared to 29.9% of the Medicare Advantage population.

**Measurement and Analysis (Eligibility):**

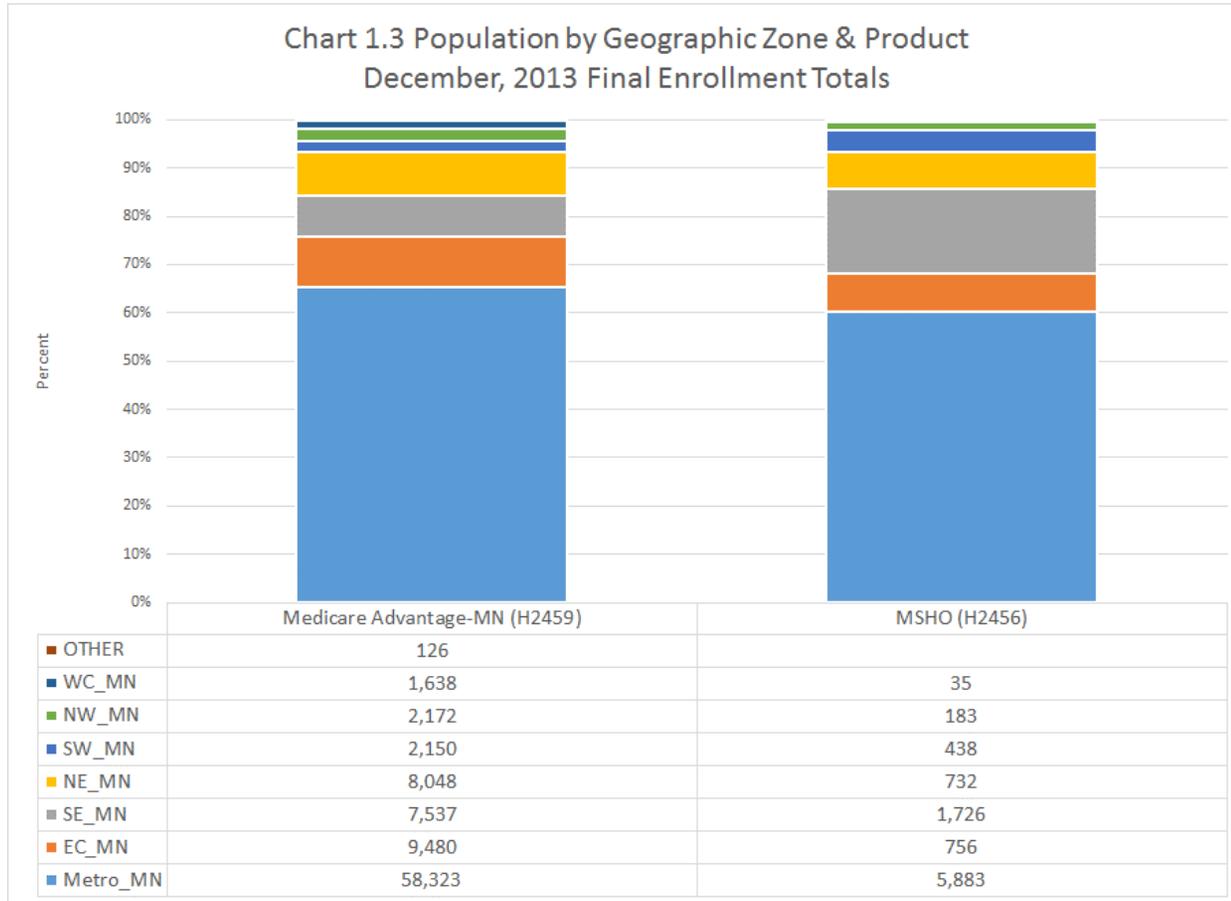
Chart 1.2 summarizes the eligibility for the Medicare Advantage and MSHO products.



Members are nearly exclusively Medicare-only in UCare’s Medicare Advantage product with approximately 99% of the members having Medicare-only eligibility. Contrary, the MSHO product is a dual product.

**Measurement and Analysis (Geographic Zones):**

Chart 1.3 summarizes the membership geographic zones for each product. The intent of the analysis is to understand the service area and percentage by location for each product.

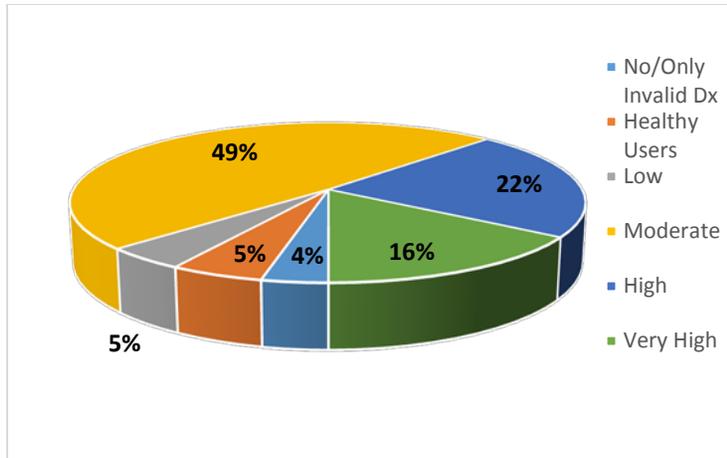


The population in both products is largely residing in the Seven County Metro Area. 60% of the members in the MSHO product reside in the Metro Area as compared to 65% of the Medicare Advantage membership. A marked difference is presented in the percent of members residing in the South East Minnesota zone. 17.7% of the membership in the MSHO product resides in the south east Minnesota zone as compared to 8.4% in Medicare Advantage.

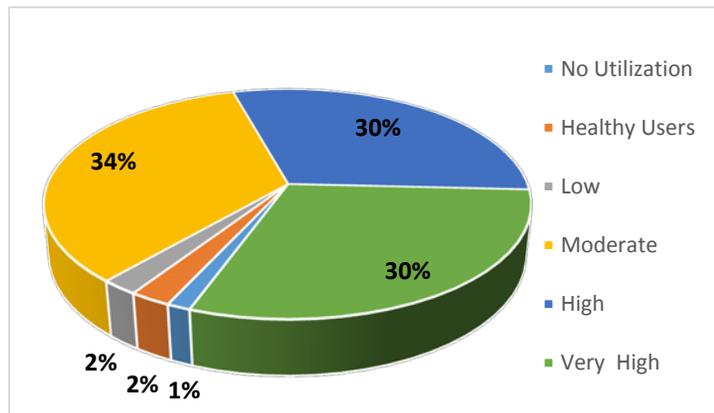
**Measurement and Analysis (Resource Utilization Bands):**

Charts 1.4 and 1.5 includes resource utilization band information for each population. The Resource Utilization Band is an output of the Johns Hopkins ACG product. This band identifies high level categories of resource utilization for each member.

**Chart 1.4 – Resource Utilization Bands (Medicare Advantage H2459)**



**Chart 1.5 – Resource Utilization Bands (MSHO H2456)**



The data demonstrates that the MSHO members are utilizing services at a higher rate across all categories.

**Measurement and Analysis (Living Status):**

Table 1.6 includes living status information for Medicare Advantage and MSHO products.

**Table 1.6**

<b>Living status</b>	<b>Medicare Advantage (H2459)</b>	<b>MSHO (H2456)</b>
Institutionalized	1%	23%
Community Based	99%	77%
Total	100%	100%

**Measurement and Analysis (Major Diagnosis Prevalence):**

Table 1.7 includes top 25 major diagnosis information for MSHO products with percent prevalence compared to the Medicare Advantage product. The counts on this exhibit represents the count of unique members that have a diagnosis in medical claims or via pharmacy utilization information. Categories are mutually exclusive.

**Table 1.7 MA-PD and MSHO Major Diagnosis Prevalence**

Table 1.7				
Condition	Medicare Advantage (H2459)		MSHO (H2456)	
	Count	Rate	Count	Rate
Hypertension	70,522	65%	8,856	78%
Disorders of Lipid Metabolism	50,669	47%	4,603	40%
Diabetes	22,714	21%	4,259	37%
Depression	17,736	16%	4,149	36%
Rheumatoid Arthritis	26,613	25%	4,027	35%
Frailty Flag	13,540	13%	3,635	32%
Chronic Kidney Disease	18,796	17%	3,209	28%
Dementia Disorders	4,637	4%	3,144	28%
Low Back Pain	17,633	16%	2,743	24%
Ischemic Heart Disease	20,908	19%	2,660	23%
Heart Failure	9,659	9%	2,438	21%
Cataract	21,925	20%	2,412	21%
Osteoporosis	12,718	12%	2,085	18%
Hypothyroidism	17,498	16%	1,786	16%
Atrial Fibrillation	11,857	11%	1,572	14%
Alzheimer's Disease	2,684	2%	1,266	11%
Stroke	5,948	6%	1,245	11%
Chronic Obstructive Pulmonary D	11,567	11%	1,172	10%
Glaucoma	12,547	12%	1,037	9%
Persistent Asthma	13,824	13%	1,028	9%
Schizophrenia	1,892	2%	919	8%
Age Related Macular Degeneratio	6,458	6%	819	7%
Seizure Disorders	11,304	10%	484	4%
Obesity	9,853	9%	407	4%
Hip Pelvis Fracture	1,656	2%	390	3%

Overall, the presence of these major conditions is statistically significantly greater in the MSHO population as compared to the Medicare Advantage product. Most notable differences appear in the rates for Dementia, Depression, Frailty, and Diabetes.

**Measurement and Analysis (Care Systems):**

Table 1.8 includes the top 20 Care System Groups, based upon total members served for Medicare Advantage and MSHO products. This exhibit represents the percent of members that have designated their primary care to these care system groups. Members from both products have a valuable network of providers to choose from and are largely served by the same providers.

**Table 1.8 MA-PD and MSHO Care Systems**

<b>Table 1.8</b>			
<b>Dec, 2013 Member Count</b>	<b>PRODUCT</b>		
<b>CARE SYSTEM GROUP</b>	<b>Medicare Advantage-MN (H2459)</b>	<b>MSHO (H2456)</b>	<b>Grand Total</b>
CARE SYSTEM E	0.88%	0.74%	0.86%
CARE SYSTEM A	19.95%	11.35%	19.11%
CARE SYSTEM F	0.94%	6.57%	1.49%
CARE SYSTEM G	1.25%	1.04%	1.22%
CARE SYSTEM H	4.78%	1.36%	4.44%
CARE SYSTEM B	4.81%	3.81%	4.71%
CARE SYSTEM C	15.65%	9.28%	15.03%
CARE SYSTEM D	5.50%	5.84%	5.53%
CARE SYSTEM I	0.43%	3.78%	0.76%
CARE SYSTEM J	1.26%	0.39%	1.17%
CARE SYSTEM K	6.73%	12.95%	7.34%
CARE SYSTEM L	4.42%	3.13%	4.29%
CARE SYSTEM M	3.83%	3.07%	3.75%
CARE SYSTEM N	4.16%	1.68%	3.91%
CARE SYSTEM O	0.94%	0.66%	0.91%
CARE SYSTEM P	7.08%	2.98%	6.67%
CARE SYSTEM Q	0.76%	0.33%	0.71%
CARE SYSTEM R	2.05%	2.79%	2.12%
CARE SYSTEM S	1.19%	1.31%	1.20%
CARE SYSTEM T	1.34%	0.33%	1.24%
Remaining Smaller Care Systems	12.08%	26.61%	13.51%
<b>Grand Total</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>

## HEDIS AND PDE MEASUREMENT RESULTS

**Summary:** HEDIS and PDE measures are included in Table 2.1 for Medicare Advantage and MSHO products. The GREEN highlighted numbers represent areas where UCare’s scores or star rating improved and the RED highlighted numbers represent areas where UCare’s scores or star rating declined. Highlighted scores were tested using the Z testing process to identify the statistical significance of the score changes from 2014 to 2015. See Appendix A for a description of the Z testing process.

In general, most of UCare’s scores for HEDIS and PDE star measures remained fairly stable in the MSHO product, but there were five that significantly improved and two that declined.

A very concerning issue is related to several star ratings that were negatively impacted in the MSHO product within the PDE measures as well as the Plan All-Cause Readmission.

**Table 2.1 MA-PD and MSHO HEDIS and PDE Measure Results for 2014 and 2015 Star Rating**

Table 2.1										
Measure	Source	Weight	Medicare Advantage - MN (H2459)				MSHO (H2456)			
			2015 Star Rating	2014 Star Rating	2015 Score	2014 Score	2015 Star Rating	2014 Star Rating	2015 Score	2014 Score
Adult BMI Assessment (a)	HEDIS	1	4	4	92.0	88.0	4	4	91.0	85.0
Breast Cancer Screening	HEDIS	0	N/A	4	79.0	78.0	N/A	2	60.0	60.0
Cardiovascular Care - Cholesterol Screening	HEDIS	1	5	5	90.0	91.0	4	4	87.0	87.0
Care for Older Adults - Functional Status Assessment (SNP-only) (a)	HEDIS	1	N/A	N/A	N/A	N/A	5	5	93.0	97.0
Care for Older Adults - Medication Review (SNP-only) (a)	HEDIS	1	N/A	N/A	N/A	N/A	4	3	86.0	74.0
Care for Older Adults - Pain Assessment (SNP-only) (a)	HEDIS	1	N/A	N/A	N/A	N/A	5	4	91.0	86.0
Colorectal Cancer Screening	HEDIS	1	5	5	71.0	77.0	3	3	54.0	51.0
Controlling Blood Pressure	HEDIS	3	4	4	71.0	73.0	4	4	67.0	67.0
Diabetes Care - Blood Sugar Controlled	HEDIS	3	3	3	78.0	76.0	3	3	72.0	69.0
Diabetes Care - Cholesterol Controlled	HEDIS	3	4	5	61.0	63.0	4	3	56.0	51.0
Diabetes Care - Cholesterol Screening	HEDIS	1	5	5	91.0	94.0	4	3	90.0	83.0
Diabetes Care - Eye Exam	HEDIS	1	4	5	76.0	76.0	4	5	76.0	78.0
Diabetes Care - Kidney Disease Monitoring	HEDIS	1	4	5	93.0	93.0	4	5	93.0	92.0
Diabetes Treatment	PDE	3	3	2	84.0	84.0	2	1	81.0	81.0
High Risk Medication (<) (a) (c)	PDE	3	4	5	8.0	3.0	3	4	11.0	4.0
Initiation of Drug Treatment	HEDIS	0								
Osteoporosis Management	HEDIS	1	1	1	16.0	15.0	1	1	12.0	12.0
Part D Medication Adherence for Cholesterol (a)	PDE	3	5	5	84.0	82.0	4	5	79.0	75.0
Part D Medication Adherence for Hypertension (a)	PDE	3	5	5	87.0	86.0	3	4	79.0	78.0
Part D Medication Adherence for Oral Diabetes Medications (a)	PDE	3	5	5	86.0	85.0	4	5	77.0	77.0
Plan All-Cause Readmissions (<) (a)	HEDIS	3	3	3	11.0	12.0	2	3	12.0	13.0
Rheumatoid Arthritis Management	HEDIS	1	5	5	91.0	87.0	3	3	71.0	75.0

**Questions Addressed:**

This report examines the following questions for selected key HEDIS and PDE measures:

- What impact do we see for measures when members are dual eligible?
- How does the measure change by age grouping?
- What impact do we see for measures when members are institutionalized?
- Are there marked differences at key selected providers?

**Measurement Methodology:**

This report uses HEDIS and PDE submission data and supporting medical and pharmacy claims data related to recent HEDIS and PDE submissions. Data was restricted to only include the age groupings of 65+ in order to maintain a consistent population age distribution between Medicare Advantage and MSHO. The following key metrics are considered for each UCare product:

- Score for the HEDIS or PDE measure.
- Member Years (MY) is the proportion of the year that the member was enrolled.

**Measurement and Analysis - High Risk Medications (HRM):**

Table 2.2 includes the High Risk Medications Rate, a ratio of the MY for individuals that were identified as meeting the criteria for the High Risk Medication measure vs. the entire population.

**Table 2.2 High Risk Medication Rates Dual vs. Medicare-Only by Product**

Table 2.2									
Age 65+	MYs for members with High Risk Medications			Total MY			Rate		
Eligibility	Medicare Advantage H2459	MSHO H2456	Grand Total	Medicare Advantage H2459	MSHO H2456	Grand Total	Medicare Advantage H2459	MSHO H2456	Grand Total
Dual	133.25	1,002.50	1,135.75	1,029.00	9,499.83	10,528.83	12.9%	10.6%	10.8%
Medicare	6,342.33		6,342.33	85,029.91		85,029.91	7.5%		7.5%
<b>Grand Total</b>	<b>6,475.58</b>	<b>1,002.50</b>	<b>7,478.08</b>	<b>86,058.91</b>	<b>9,499.83</b>	<b>95,558.75</b>	<b>7.5%</b>	<b>10.6%</b>	<b>7.8%</b>

The dual eligible population has a statistically significantly higher rate, performing worse than the Medicare-only population. The Medicare Advantage members that are dual eligible has a statistically significant higher rate, performing worse than the MSHO population.

Table 2.3 includes the same information for the age 65-74 subset of the population in table 2.2. The results are statistically significant. MSHO duals perform better than MA duals but duals in both MSHO and MA-PD perform worse than Medicare-only non dual eligibles. This indicates that the disparity in this measure between dual and Medicare-only is not likely due to an older population being served in the dual population.

**Table 2.3 High Risk Medication Rates Dual vs. Medicare-Only by Product for 65-74 Age Group**

Table 2.3									
Age 65-74	MYs for members with High Risk Medications			Total MY			Rate		
	Medicare Advantage H2459	MSHO H2456	Grand Total	Medicare Advantage H2459	MSHO H2456	Grand Total	Medicare Advantage H2459	MSHO H2456	Grand Total
Dual	70.42	479.50	549.92	405.67	3,690.33	4,096.00	17.4%	13.0%	13.4%
Medicare	3,840.58		3,840.58	47,731.50		47,731.50	8.0%		8.0%
<b>Grand Total</b>	<b>3,911.00</b>	<b>479.50</b>	<b>4,390.50</b>	<b>48,137.16</b>	<b>3,690.33</b>	<b>51,827.50</b>	<b>8.1%</b>	<b>13.0%</b>	<b>8.5%</b>

Table 2.4 includes the 65+ population categorized by gender. This exhibit shows a statistically significant difference between the rates by gender on both the Medicare and MSHO population. The males outperform the females in both the Dual and Medicare Only population segments. Potentially, drugs that are classified as High Risk are utilized at a higher rate for women. Are the medications defined under the HRM measure generally for use or more acceptable among the female population, e.g., Estrogen? The gender rate difference appears to be a piece of the puzzle, but it is not the entire cause because as seen on this same exhibit, males in the Medicare-only population also perform approximately 43% better than males in the dual population (5.3 vs. 9.3, respectively). The rate difference between the Medicare Advantage dual eligible population vs the MSHO female population (13.5 and 11.1%, respectively) indicates that the difference between the products is not driven by coverage or claims payment issues.

**Table 2.4 High Risk Medication Rates Dual vs. Medicare-Only by Product and Gender**

Table 2.4										
Eligibility2	Age 65+ Sex	MYs for members with High Risk Medications			Total MY			Rate		
		Medicare Advantage H2459	MSHO H2456	Grand Total	Medicare Advantage H2459	MSHO H2456	Grand Total	Medicare Advantage H2459	MSHO H2456	Grand Total
Dual	F	107.83	741.83	849.67	799.08	6,657.33	7,456.42	13.5%	11.1%	11.4%
	M	25.42	260.67	286.08	229.92	2,842.50	3,072.42	11.1%	9.2%	9.3%
Medicare	F	4,406.67		4,406.67	48,275.83		48,275.83	9.1%		9.1%
	M	1,935.67		1,935.67	36,754.08		36,754.08	5.3%		5.3%
<b>Grand Total</b>		<b>6,475.58</b>	<b>1,002.50</b>	<b>7,478.08</b>	<b>86,058.91</b>	<b>9,499.83</b>	<b>95,558.75</b>	<b>7.5%</b>	<b>10.6%</b>	<b>7.8%</b>

Table 2.5 includes selected large care systems. The reason for including this exhibit is because the standard of care should be similar within a care system, but there is a statistically significant difference between the Medicare Advantage and the MSHO populations in nearly every case. The MSHO population consistently performs worse than the Medicare Advantage population.

**Table 2.5 High Risk Medication Rates Dual vs. Medicare-Only by Product and Care System**

Table 2.5										
Age 65+	MYs for members with High Risk Medications			Total MY			Rate			
CARE_SYSTEM_C	Medicare Advantage H2459	MSHO H2456	Grand Total	Medicare Advantage H2459	MSHO H2456	Grand Total	Medicare Advantage H2459	MSHO H2456	Grand Total	
CARE SYSTEM A	1,266.83	133.33	1,400.17	17,139.50	1,066.67	18,206.17	7.4%	12.5%	7.7%	
CARE SYSTEM B	341.33	49.08	390.42	4,070.67	366.17	4,436.83	8.4%	13.4%	8.8%	
CARE SYSTEM C	1,026.25	77.92	1,104.17	13,645.25	883.67	14,528.92	7.5%	8.8%	7.6%	
CARE SYSTEM D	376.75	62.17	438.92	4,754.83	555.92	5,310.75	7.9%	11.2%	8.3%	
<b>Grand Total</b>	<b>3,011.17</b>	<b>322.50</b>	<b>3,333.67</b>	<b>39,610.25</b>	<b>2,872.42</b>	<b>42,482.66</b>	<b>7.6%</b>	<b>11.2%</b>	<b>7.8%</b>	

Table 2.6 includes the same care systems split by gender. Again, we see the same trends of gender and product differences.

**Table 2.6 High Risk Medication Rates Dual vs. Medicare-Only by Product, Care System and Gender**

Table 2.6										
Age 65+	MYs for members with High Risk Medications			Total MY			Rate			
CARE_SYSTEM_GR Sex	Medicare Advantage H2459	MSHO H2456	Grand Total	Medicare Advantage H2459	MSHO H2456	Grand Total	Medicare Advantage H2459	MSHO H2456	Grand Total	
ALLINA	F	907.92	96.50	1,004.42	10,089.67	768.83	10,858.50	9.0%	12.6%	9.3%
	M	358.92	36.83	395.75	7,049.83	297.83	7,347.67	5.1%	12.4%	5.4%
ESSENTIA	F				2,151.50	264.42	2,415.92	9.9%	15.4%	10.5%
	M				1,919.17	101.75	2,020.92	6.6%	8.3%	6.7%
FAIRVIEW	F	734.00	52.17	786.17	8,061.92	639.08	8,701.00	9.1%	8.2%	9.0%
	M	292.25	25.75	318.00	5,583.33	244.58	5,827.92	5.2%	10.5%	5.5%
HEALTHEAST CLINI	F	252.75	45.00	297.75	2,850.25	392.92	3,243.17	8.9%	11.5%	9.2%
	M	124.00	17.17	141.17	1,904.58	163.00	2,067.58	6.5%	10.5%	6.8%
<b>Grand Total</b>		<b>3,011.17</b>	<b>322.50</b>	<b>3,333.67</b>	<b>39,610.25</b>	<b>2,872.42</b>	<b>42,482.66</b>	<b>7.6%</b>	<b>11.2%</b>	<b>7.8%</b>

**Measurement and Analysis – Medication Adherence:**

Table 3.1 summarizes the Medicare Advantage vs. the MSHO product for the three Medication Adherence Measures. The medication adherence has statistically significantly higher rates of adherence for Medicare Advantage vs. MSHO in all three adherence measures.

**Table 3.1 Cholesterol, Hypertension, and Diabetes Medication Adherence Rates by Product**

Table 3.1												
	Cholesterol Medication Adherent				Hypertension Medication Adherent				Diabetes Medication Adherent			
	Medicare Advantage - H2459		MSHO - H2456		Medicare Advantage - H2459		MSHO - H2456		Medicare Advantage - H2459		MSHO - H2456	
	MY	Rate	MY	Rate	MY	Rate	MY	Rate	MY	Rate	MY	Rate
Yes	30,974.8	83.88%	3,058.0	78.52%	27,735.7	87.72%	3,184.4	78.53%	6,683.3	85.75%	1,003.1	77.29%
No	5,952.0	16.12%	836.4	21.48%	3,882.9	12.28%	870.4	21.47%	1,083.2	14.25%	294.7	22.71%
<b>Grand Total</b>	<b>36,926.8</b>	<b>100.00%</b>	<b>3,894.4</b>	<b>100.00%</b>	<b>31,618.7</b>	<b>100.00%</b>	<b>4,054.8</b>	<b>100.00%</b>	<b>7,766.6</b>	<b>100.00%</b>	<b>1,297.7</b>	<b>100.00%</b>

Table 3.2 summarizes the adherence by eligibility. Unlike the High Risk Medications measure, the impact of dual population does not appear to be driving the performance of the measures in the Medicare Advantage Product.

**Table 3.2 Cholesterol, Hypertension, and Diabetes Medication Adherence Rates Dual vs. Medicare-Only by Product**

Table 3.2													
MEDICARE_ELIGIBILITY		Cholesterol Medication Adherent				Hypertension Medication Adherent				Diabetes Medication Adherent			
		Medicare Advantage - H2459		MSHO - H2456		Medicare Advantage - H2459		MSHO - H2456		Medicare Advantage - H2459		MSHO - H2456	
		MY	Rate	MY	Rate	MY	Rate	MY	Rate	MY	Rate	MY	Rate
Dual	Yes	419.7	83.35%	3,058.0	78.52%	453.4	88.43%	3,184.4	78.53%	136.8	89.14%	1,003.1	77.29%
	No	83.8	16.65%	836.4	21.48%	59.3	11.57%	870.4	21.47%	16.7	10.86%	294.7	22.71%
<b>Dual Total</b>		<b>503.6</b>	<b>100.00%</b>	<b>3,894.4</b>	<b>100.00%</b>	<b>512.7</b>	<b>100.00%</b>	<b>4,054.8</b>	<b>100.00%</b>	<b>153.5</b>	<b>100.00%</b>	<b>1,297.7</b>	<b>100.00%</b>
Medicare	Yes	30,555.1	83.89%			27,282.3	87.71%			6,546.5	85.99%		
	No	5,868.2	16.11%			3,823.6	12.29%			1,066.6	14.01%		
<b>Medicare Total</b>		<b>36,423.2</b>	<b>100.00%</b>			<b>31,105.9</b>	<b>100.00%</b>			<b>7,613.1</b>	<b>100.00%</b>		

Tables 3.3 through 3.5 summarizes the impact of gender, age category, and geographic location. Results of these variables on the measure are not found to be statistically significant.

**Table 3.3 Cholesterol, Hypertension, and Diabetes Medication Adherence Rates by Product and Age Group**

Table 3.3		Cholesterol Medication Adherent				Hypertension Medication Adherent				Diabetes Medication Adherent			
		Medicare Advantage - H2459		MSHO - H2456		Medicare Advantage - H2459		MSHO - H2456		Medicare Advantage - H2459		MSHO - H2456	
Age Group		MY	Rate	MY	Rate	MY	Rate	MY	Rate	MY	Rate	MY	Rate
65-74 Years	Yes	17,365.4	84.23%	1,343.9	77.71%	14,742.5	88.32%	1,188.7	75.96%	3,885.0	86.38%	468.6	75.49%
	No	3,250.6	15.77%	385.5	22.29%	1,950.5	11.68%	376.2	24.04%	612.5	13.62%	152.2	24.51%
<b>65-74 Years Total</b>		<b>20,616.0</b>	<b>100.00%</b>	<b>1,729.4</b>	<b>100.00%</b>	<b>16,693.0</b>	<b>100.00%</b>	<b>1,564.8</b>	<b>100.00%</b>	<b>4,497.5</b>	<b>100.00%</b>	<b>620.7</b>	<b>100.00%</b>
75-84 Years	Yes	10,425.3	83.86%	1,154.2	77.83%	9,420.8	87.70%	1,149.1	78.44%	2,178.7	85.90%	370.2	77.06%
	No	2,006.2	16.14%	328.7	22.17%	1,321.6	12.30%	315.7	21.56%	357.7	14.10%	110.2	22.94%
<b>75-84 Years Total</b>		<b>12,431.5</b>	<b>100.00%</b>	<b>1,483.0</b>	<b>100.00%</b>	<b>10,742.4</b>	<b>100.00%</b>	<b>1,464.8</b>	<b>100.00%</b>	<b>2,536.5</b>	<b>100.00%</b>	<b>480.3</b>	<b>100.00%</b>
85+ Years	Yes	3,184.1	82.08%	559.8	82.09%	3,572.4	85.40%	846.7	82.59%	619.6	84.58%	164.3	83.56%
	No	695.2	17.92%	122.2	17.91%	610.8	14.60%	178.5	17.41%	113.0	15.42%	32.3	16.44%
<b>85+ Years Total</b>		<b>3,879.3</b>	<b>100.00%</b>	<b>682.0</b>	<b>100.00%</b>	<b>4,183.2</b>	<b>100.00%</b>	<b>1,025.2</b>	<b>100.00%</b>	<b>732.6</b>	<b>100.00%</b>	<b>196.7</b>	<b>100.00%</b>

**Table 3.4 Cholesterol, Hypertension, and Diabetes Medication Adherence Rates by Product and Gender**

Table 3.4		Cholesterol Medication Adherent				Hypertension Medication Adherent				Diabetes Medication Adherent			
		Medicare Advantage - H2459		MSHO - H2456		Medicare Advantage - H2459		MSHO - H2456		Medicare Advantage - H2459		MSHO - H2456	
SEX		MY	Rate	MY	Rate	MY	Rate	MY	Rate	MY	Rate	MY	Rate
F	Yes	17,313.5	82.92%	2,109.9	78.52%	15,527.3	87.90%	2,253.1	79.20%	3,377.9	85.18%	694.0	76.88%
	No	3,565.4	17.08%	577.2	21.48%	2,137.5	12.10%	591.7	20.80%	587.5	14.82%	208.7	23.12%
<b>F Total</b>		<b>20,878.9</b>	<b>100.00%</b>	<b>2,687.1</b>	<b>100.00%</b>	<b>17,664.8</b>	<b>100.00%</b>	<b>2,844.7</b>	<b>100.00%</b>	<b>3,965.4</b>	<b>100.00%</b>	<b>902.7</b>	<b>100.00%</b>
M	Yes	14,402.3	84.66%	948.1	78.53%	12,208.4	87.49%	931.3	76.96%	3,305.4	86.96%	309.1	78.25%
	No	2,608.7	15.34%	259.2	21.47%	1,745.4	12.51%	278.7	23.04%	495.7	13.04%	85.9	21.75%
<b>M Total</b>		<b>17,011.0</b>	<b>100.00%</b>	<b>1,207.3</b>	<b>100.00%</b>	<b>13,953.8</b>	<b>100.00%</b>	<b>1,210.1</b>	<b>100.00%</b>	<b>3,801.2</b>	<b>100.00%</b>	<b>395.0</b>	<b>100.00%</b>

Table 3.5 Cholesterol, Hypertension, and Diabetes Medication Adherence Rates by Product and Geographic Zone

Table 3.5		Cholesterol Medication Adherent				Hypertension Medication Adherent				Diabetes Medication Adherent			
		Medicare Advantage - H2459		MSHO - H2456		Medicare Advantage - H2459		MSHO - H2456		Medicare Advantage - H2459		MSHO - H2456	
Zone		MY	Rate	MY	Rate	MY	Rate	MY	Rate	MY	Rate	MY	Rate
EC_MN	Yes	3,204.8	83.85%	216.8	80.71%	2,856.2	87.78%	266.7	83.12%	719.1	84.94%	83.8	87.48%
	No	617.3	16.15%	51.8	19.29%	397.5	12.22%	54.2	16.88%	127.5	15.06%	12.0	12.52%
<b>EC_MN Total</b>		<b>3,822.2</b>	<b>100.00%</b>	<b>268.7</b>	<b>100.00%</b>	<b>3,253.7</b>	<b>100.00%</b>	<b>320.9</b>	<b>100.00%</b>	<b>846.6</b>	<b>100.00%</b>	<b>95.8</b>	<b>100.00%</b>
Metro_MN	Yes	21,633.4	83.85%	1,719.3	74.33%	18,638.5	87.62%	1,818.7	74.49%	4,358.2	86.26%	626.2	73.36%
	No	4,166.2	16.15%	593.8	25.67%	2,632.8	12.38%	622.9	25.51%	694.2	13.74%	227.3	26.64%
<b>Metro_MN Total</b>		<b>25,799.7</b>	<b>100.00%</b>	<b>2,313.2</b>	<b>100.00%</b>	<b>21,271.3</b>	<b>100.00%</b>	<b>2,441.6</b>	<b>100.00%</b>	<b>5,052.4</b>	<b>100.00%</b>	<b>853.5</b>	<b>100.00%</b>
NE_MN	Yes	2,477.2	81.93%	246.5	86.90%	2,375.6	86.99%	253.2	85.24%	577.5	84.87%		
	No	546.2	18.07%	37.2	13.10%	355.3	13.01%	43.8	14.76%	102.9	15.13%		
<b>NE_MN Total</b>		<b>3,023.3</b>	<b>100.00%</b>	<b>283.7</b>	<b>100.00%</b>	<b>2,730.9</b>	<b>100.00%</b>	<b>297.0</b>	<b>100.00%</b>	<b>680.4</b>	<b>100.00%</b>		
NW_MN	Yes	615.0	82.68%			619.2	88.21%	78.0	84.63%	141.2	82.24%		
	No	128.8	17.32%			82.8	11.79%	14.2	15.37%	30.5	17.76%		
<b>NW_MN Total</b>		<b>743.8</b>	<b>100.00%</b>			<b>701.9</b>	<b>100.00%</b>	<b>92.2</b>	<b>100.00%</b>	<b>171.7</b>	<b>100.00%</b>		
OTHER	Yes	64.2	83.26%			43.6	78.77%						
	No	12.9	16.74%			11.8	21.23%						
<b>OTHER Total</b>		<b>77.2</b>	<b>100.00%</b>			<b>55.3</b>	<b>100.00%</b>						
SE_MN	Yes	2,596.2	84.49%	654.3	84.52%	2,107.1	89.20%	582.0	84.16%	580.5	89.14%	163.4	82.12%
	No	476.7	15.51%	119.8	15.48%	255.2	10.80%	109.5	15.84%	70.7	10.86%	35.6	17.88%
<b>SE_MN Total</b>		<b>3,073.0</b>	<b>100.00%</b>	<b>774.2</b>	<b>100.00%</b>	<b>2,362.3</b>	<b>100.00%</b>	<b>691.5</b>	<b>100.00%</b>	<b>651.2</b>	<b>100.00%</b>	<b>199.0</b>	<b>100.00%</b>
SW_MN	Yes	663.1	81.79%	126.3	84.69%	656.7	88.17%	172.8	88.03%	174.6	82.29%	49.2	82.63%
	No	147.7	18.21%	22.8	15.31%	88.1	11.83%	23.5	11.97%	37.6	17.71%	10.3	17.37%
<b>SW_MN Total</b>		<b>810.7</b>	<b>100.00%</b>	<b>149.2</b>	<b>100.00%</b>	<b>744.8</b>	<b>100.00%</b>	<b>196.3</b>	<b>100.00%</b>	<b>212.2</b>	<b>100.00%</b>	<b>59.5</b>	<b>100.00%</b>
WC_MN	Yes	461.8	85.52%	11.3	88.89%	438.8	88.07%	13.0	84.78%	116.7	86.16%		
	No	78.2	14.48%			59.4	11.93%			18.7	13.84%		
<b>WC_MN Total</b>		<b>540.0</b>	<b>100.00%</b>	<b>12.7</b>	<b>100.00%</b>	<b>498.2</b>	<b>100.00%</b>	<b>15.3</b>	<b>100.00%</b>	<b>135.5</b>	<b>100.00%</b>		

Table 3.6 includes selected large care systems. The reason for including this exhibit is because the standard of care should be similar within a care system, but there is a notable difference between the Medicare Advantage and the MSHO populations in nearly every case. Highlighted cells were found to be statistically significant differences between the Medicare Advantage and MSHO products. Of the seven cases where statistical significance was found, six performed better on the Medicare Advantage product line.

**Table 3.6 Cholesterol, Hypertension, and Diabetes Medication Adherence Rates by Product and Care System**

Table 3.6		Cholesterol Medication Adherent				Hypertension Medication Adherent				Diabetes Medication Adherent			
		Medicare Advantage - H2459		MSHO - H2456		Medicare Advantage - H2459		MSHO - H2456		Medicare Advantage - H2459		MSHO - H2456	
CARE_SYSTEM_GROUP		MY	Rate	MY	Rate	MY	Rate	MY	Rate	MY	Rate	MY	Rate
CARE SYSTEM A	Yes	6,437.7	83.39%	371.2	81.11%	5,541.2	87.62%	359.6	80.10%	1,290.7	87.52%	100.1	81.15%
	No	1,281.8	16.61%	86.4	18.89%	782.8	12.38%	89.3	19.90%	184.1	12.48%	23.2	18.85%
<b>CARE SYSTEM A Total</b>		<b>7,719.5</b>	<b>100.00%</b>	<b>457.6</b>	<b>100.00%</b>	<b>6,324.0</b>	<b>100.00%</b>	<b>448.9</b>	<b>100.00%</b>	<b>1,474.8</b>	<b>100.00%</b>	<b>123.3</b>	<b>100.00%</b>
CARE SYSTEM B	Yes	1,317.6	81.71%	133.7	88.67%	1,287.1	87.62%	134.8	88.71%	302.2	83.36%		
	No	294.9	18.29%	17.1	11.33%	181.8	12.38%	17.2	11.29%	60.3	16.64%		
<b>CARE SYSTEM B Total</b>		<b>1,612.5</b>	<b>100.00%</b>	<b>150.8</b>	<b>100.00%</b>	<b>1,468.9</b>	<b>100.00%</b>	<b>152.0</b>	<b>100.00%</b>	<b>362.5</b>	<b>100.00%</b>		
CARE SYSTEM C	Yes	5,455.4	83.79%	276.6	77.51%	5,050.6	88.41%	320.0	81.95%	1,097.7	86.64%	97.6	77.24%
	No	1,055.5	16.21%	80.2	22.49%	662.3	11.59%	70.5	18.05%	169.2	13.36%	28.7	22.76%
<b>CARE SYSTEM C Total</b>		<b>6,510.9</b>	<b>100.00%</b>	<b>356.8</b>	<b>100.00%</b>	<b>5,712.9</b>	<b>100.00%</b>	<b>390.5</b>	<b>100.00%</b>	<b>1,266.9</b>	<b>100.00%</b>	<b>126.3</b>	<b>100.00%</b>
CARE SYSTEM D	Yes	1,918.5	84.02%	182.6	73.57%	1,615.7	86.07%	193.7	77.31%	363.1	83.69%	64.9	75.48%
	No	364.8	15.98%	65.6	26.43%	261.5	13.93%	56.8	22.69%	70.8	16.31%	21.1	24.52%
<b>CARE SYSTEM D Total</b>		<b>2,283.3</b>	<b>100.00%</b>	<b>248.2</b>	<b>100.00%</b>	<b>1,877.2</b>	<b>100.00%</b>	<b>250.5</b>	<b>100.00%</b>	<b>433.8</b>	<b>100.00%</b>	<b>86.0</b>	<b>100.00%</b>

UCare's rates for these measures are created by Acumen, LLC. Their documentation states the following for this measure:

*In response to sponsor feedback, CMS modified the PDC calculation, starting with the 2015 Star Ratings (using 2013 PDE data), to adjust for beneficiary stays in inpatient (IP) facilities, hospice enrollments, and skilled nursing facility (SNF) stays. This accounts for periods during which the Part D sponsor would not be responsible for providing prescription fills for relevant medications or more accurately reflect drugs covered under the hospice benefit or waived through the beneficiary's hospice election. Thus, their medication fills during an IP or SNF stay or during hospice enrollment would not be reflected in the PDE claims used to calculate the Patient Safety adherence measures. The PDC modification for IP stays, hospice enrollments, and SNF stays reflects this situation.*

*Please note that while this modification will enhance the adherence measure calculation, extensive testing indicates that most Part D contracts will experience a negligible impact on their adherence rates. The inpatient adjustment was first implemented for the 2013 Star Ratings (using 2011 PDE data). Overall, the 2011 adherence rates increased 0.4 to 0.6 percentage points, and the adjustment may impact the rates positively or negatively. The hospice and SNF adjustments were tested on 2013 PDE data and overall increased the rates by 0.1 percentage points and 0.4 percentage points, respectively. While hospice information from the Medicare Enrollment Database (EDB) and inpatient claims from the Common Working File (CWF) are available for both PDPs and MA-PDs, SNF claims are only available for Medicare Fee-for-Service (FFS) beneficiaries who are also enrolled in PDPs. Therefore, the SNF*

adjustment will only impact PDP sponsors; when such data are available for MA-PD organizations, this adjustment will be expanded to include those organizations as well.

Table 3.7 shows the population of Nursing Home members as compare to the remaining population to identify the rate impacts for those members. The results are statistically insignificant on the MSHO product, but indicate a clear effect on the Medicare Advantage Product. The Rates for members that were in a nursing facility were significantly lower than the rates for the members that were not in a nursing facility.

**Table 3.7 Cholesterol, Hypertension, and Diabetes Medication Adherence Rates, Members with SNF Services vs. All Others**

Table 3.7		Cholesterol Medication Adherent				Hypertension Medication Adherent				Diabetes Medication Adherent			
		Medicare Advantage - H2459		MSHO - H2456		Medicare Advantage - H2459		MSHO - H2456		Medicare Advantage - H2459		MSHO - H2456	
NH 2013 Status	Cholesterol	MY	Rate	MY	Rate	MY	Rate	MY	Rate	MY	Rate	MY	Rate
SNF	Yes	1,487.1	73.78%	522.6	76.48%	1,361.2	75.57%	624.2	78.46%	316.2	76.50%	130.8	82.33%
	No	528.6	26.22%	160.7	23.52%	440.0	24.43%	171.4	21.54%	97.2	23.50%	28.1	17.67%
<b>SNF Total</b>		<b>2,015.7</b>	<b>100.00%</b>	<b>683.3</b>	<b>100.00%</b>	<b>1,801.2</b>	<b>100.00%</b>	<b>795.7</b>	<b>100.00%</b>	<b>413.4</b>	<b>100.00%</b>	<b>158.9</b>	<b>100.00%</b>
OTHER	Yes	30,228.7	84.26%	2,535.4	78.96%	26,374.6	88.45%	2,560.2	78.55%	6,367.1	86.59%	872.2	76.59%
	No	5,645.5	15.74%	675.7	21.04%	3,442.9	11.55%	699.0	21.45%	986.1	13.41%	266.6	23.41%
<b>OTHER Total</b>		<b>35,874.2</b>	<b>100.00%</b>	<b>3,211.1</b>	<b>100.00%</b>	<b>29,817.5</b>	<b>100.00%</b>	<b>3,259.2</b>	<b>100.00%</b>	<b>7,353.2</b>	<b>100.00%</b>	<b>1,138.8</b>	<b>100.00%</b>

**Measurement and Analysis – Colorectal Cancer Screening:**

UCare did analyze this measure as there is a statistically significant rate difference between the Medicare Advantage and the MSHO rates in the Hybrid calculation of the measure (see Table 2.1). There is no statistically significant difference between the rates by product & eligibility in the Administrative calculation of the measure (see Table 4.1).

**Table 4.1 Colorectal Cancer Screening Administrative Rates by Product**

Table 4.1		
Colorectal Cancer Screening	Medicare Advantage (H2459)	MSHO (H2456)
COL Rate	49.94%	50.61%
Denominator	18,137	897

Table 4.2 analyzes the colorectal administrative rate by living status. The difference between institutional and community members was found to be statistically significant. The rate of compliance was higher in the community setting.

**Table 4.2 Colorectal Cancer Screening Administrative Rates by Product and Living Status**

Table 4.2			
Living Status	Values	Medicare Advantage (H2459)	MSHO (H2456)
Institutional	COL Rate	23.53%	22.86%
	Denominator	17	70
Community	COL Rate	49.96%	52.96%
	Denominator	18,120	827

Table 4.3 analyzes the colorectal administrative rate by age group. The difference between age groups was found to be statistically significant. The rate of compliance is higher for the older population.

**Table 4.3 Colorectal Cancer Screening Administrative Rates by Product and Age Group**

Table 4.3			
AGE GROUP	Values	Medicare Advantage (H2459)	MSHO (H2456)
65 - 74	COL Rate	48.94%	49.14%
	Denominator	16,505	810
75 - 84	COL Rate	59.99%	64.37%
	Denominator	1,632	87

**Measurement and Analysis – Osteoporosis Management in Women**

There is no statistically significant difference between the rates by product (see Table 5.1).

**Table 5.1 Osteoporosis Management in Women Rates by Product**

Table 5.1		
Osteoporosis Management	Medicare Advantage (H2459)	MSHO (H2456)
OMW Rate	16.40%	12.36%
Denominator	1,293	267

Table 5.2 analyzes the osteoporosis rate by living status. The difference between institutional and community members was found to be statistically significant. The rate of compliance was higher in the community setting.

**Table 5.2 Osteoporosis Management in Women Rates by Product and Living Status**

Table 5.2			
Living Status	Values	Medicare Advantage (H2459)	MSHO (H2456)
<b>Institutional</b>	OMW Rate	0.00%	6.33%
	Denominator	30	79
<b>Community</b>	OMW Rate	16.79%	14.89%
	Denominator	1,263	188

Table 5.3 analyzes the osteoporosis rate by age group. The difference between age groups was found to be statistically significant for the 85+ category. The rate of compliance is lower for the oldest population. Table 5.2 and 5.3 indicate that there is an acuity component impacting the compliance of this measure.

**Table 5.3 Osteoporosis Management in Women Rates by Product and Age Group**

Table 5.3			
AGE GROUP	Values	Medicare Advantage (H2459)	MSHO (H2456)
65 - 74	OMW Rate	17.57%	17.74%
	Denominator	444	62
75 - 84	OMW Rate	20.55%	16.48%
	Denominator	433	91
85 +	OMW Rate	10.82%	6.14%
	Denominator	416	114

**Measurement and Analysis - Rheumatoid Arthritis Management:**

Table 6.1 summarizes the Medicare Advantage vs. the MSHO product for the Rheumatoid Arthritis Management Measure. The rate has more favorable results for Medicare Advantage. Due to the size of the eligible population, the results of the analytics were not found to be statistically significant.

**Table 6.1 Rheumatoid Arthritis Management Rates by Product**

Table 6.1		
Rheumatoid Art	Medicare Advantage (H2459)	MSHO (H2456)
ART Rate	90.28%	71.43%
Denominator	916	91

## CONCLUSION AND SUMMARY OF OBSERVATIONS

From a population demographics perspective, there are several statistically significant differences between the MSHO (H2456) and the Medicare Advantage – MN (H2459) products, including the following:

- MSHO members are dually eligible (Chart 1.2). UCare supports these members full spectrum of health care for this socio-economically challenged group of members.
- MSHO members are older (Chart 1.1).
- The MSHO members have a higher prevalence of major diagnoses (Table 1.7).
- MSHO members have a high rate of institutionalization (Table 1.6)
- The MSHO members utilize services at a significantly higher rate (Charts 1.4 and 1.5).

There are also several significant similarities in the MSHO (H2456) and the Medicare Advantage – MN (H2459) products, including the following:

- The service area is primarily the Minnesota seven county metro area (Chart 1.3)
- Both products are served by the same provider network (Table 1.8).

From a rate result perspective, the following very important information was discovered in the rate analytics portion of this document:

- All of the rates that were explored in the earlier section exhibited significant differences between the final rates for the MSHO (H2456) and the Medicare Advantage – MN (H2459) products. MSHO scores were significantly lower than Medicare Advantage MN, even while being served by the same providers in the same locations.
- The High Risk Medications measure was significantly impacted by the gender distribution, potentially due to the likelihood of females in using some of the medications. This disparity would impact the MSHO product more than the Medicare Advantage product due to the higher quantity of females served in the MSHO product. (Products with a higher female population are likely to be negatively skewed for this measure).
- The dual eligibility by product showed the MSHO product performed better than the Medicare Advantage product for High Risk medications. (Table 2.2 and 2.3).
- Rates that were presented by Care System displayed the same disparity between the Medicare Advantage and MSHO products. Care Systems operate with the same medical standards regardless of the insurance product. Thus, there must be significant differences between the populations that would counter-indicate the service for more members in the MSHO product than in the Medicare Advantage product.
- Members that are institutionalized under-performed in several of the measures reviewed, indicating a link to the acuity of the member in these measures.

UCare was surprised to lose our position as a 4 star product in the MSHO product line. Several clinical initiatives are employed each year surrounding the attainment and maintenance of our HEDIS and PDE measures. As illustrated in Table 2.1 (included below for ease of reference), there were several measures that we improved or maintained our rates, but lost star ratings in both the Medicare Advantage MN and the MSHO products. It is concerning to UCare that our MSHO product rating would decline so frequently in the PDE measures. UCare believes that this product is performing as well as previous years.

**Table 2.1 MA-PD and MSHO HEDIS and PDE Measure Results for 2014 and 2015 Star Rating**

Table 2.1										
Measure	Source	Weight	Medicare Advantage - MN (H2459)				MSHO (H2456)			
			2015 Star Rating	2014 Star Rating	2015 Score	2014 Score	2015 Star Rating	2014 Star Rating	2015 Score	2014 Score
Adult BMI Assessment (a)	HEDIS	1	4	4	92.0	88.0	4	4	91.0	85.0
Breast Cancer Screening	HEDIS	0	N/A	4	79.0	78.0	N/A	2	60.0	60.0
Cardiovascular Care - Cholesterol Screening	HEDIS	1	5	5	90.0	91.0	4	4	87.0	87.0
Care for Older Adults - Functional Status Assessment (SNP-only) (a)	HEDIS	1	N/A	N/A	N/A	N/A	5	5	93.0	97.0
Care for Older Adults - Medication Review (SNP-only) (a)	HEDIS	1	N/A	N/A	N/A	N/A	4	3	86.0	74.0
Care for Older Adults - Pain Assessment (SNP-only) (a)	HEDIS	1	N/A	N/A	N/A	N/A	5	4	91.0	86.0
Colorectal Cancer Screening	HEDIS	1	5	5	71.0	77.0	3	3	54.0	51.0
Controlling Blood Pressure	HEDIS	3	4	4	71.0	73.0	4	4	67.0	67.0
Diabetes Care - Blood Sugar Controlled	HEDIS	3	3	3	78.0	76.0	3	3	72.0	69.0
Diabetes Care - Cholesterol Controlled	HEDIS	3	4	5	61.0	63.0	4	3	56.0	51.0
Diabetes Care - Cholesterol Screening	HEDIS	1	5	5	91.0	94.0	4	3	90.0	83.0
Diabetes Care - Eye Exam	HEDIS	1	4	5	76.0	76.0	4	5	76.0	78.0
Diabetes Care - Kidney Disease Monitoring	HEDIS	1	4	5	93.0	93.0	4	5	93.0	92.0
Diabetes Treatment	PDE	3	3	2	84.0	84.0	2	1	81.0	81.0
High Risk Medication (<) (a) (c)	PDE	3	4	5	8.0	3.0	3	4	11.0	4.0
Initiation of Drug Treatment	HEDIS	0								
Osteoporosis Management	HEDIS	1	1	1	16.0	15.0	1	1	12.0	12.0
Part D Medication Adherence for Cholesterol (a)	PDE	3	5	5	84.0	82.0	4	5	79.0	75.0
Part D Medication Adherence for Hypertension (a)	PDE	3	5	5	87.0	86.0	3	4	79.0	78.0
Part D Medication Adherence for Oral Diabetes Medications (a)	PDE	3	5	5	86.0	85.0	4	5	77.0	77.0
Plan All-Cause Readmissions (<) (a)	HEDIS	3	3	3	11.0	12.0	2	3	12.0	13.0
Rheumatoid Arthritis Management	HEDIS	1	5	5	91.0	87.0	3	3	71.0	75.0

## Appendix A - Z Test Calculator for Comparison of Two Population Proportions

**Assumptions:** This basic statistical test compares two proportions for statistical significance. It presumes (1) the samples collected in the two groups are independent; and (2) that each sample has at least 10 “successes” and 10 “failures.”

Statement of Hypothesis: Null =  $H_0: \rho_1 = \rho_2$     Alternative =  $H_a: \rho_1 \neq \rho_2$

Where  $\rho_1$  and  $\rho_2$  represent the proportions of “successes” in each of the independent groups. In this test, we perform a “two-tailed” test. This is more conservative than a one-tailed test since an extreme value on either side of the sampling distribution would cause the researcher to reject the null hypothesis.

**Procedure:** Since the null hypothesis states that  $\rho_1 = \rho_2$ , we compute a test statistic, Z, by first computing: a pooled sample proportion, a standard error for the difference in the proportions, and the test statistic, or Z-score.

Pooled Sample Proportion:  $\rho = (\rho_1 * n_1 + \rho_2 * n_2) / (n_1 + n_2)$

Standard Error:  $SE = \text{SQRT} [ \rho * (1 - \rho) * (1 / n_1) + (1 / n_2) ]$

Test Statistic:  $Z = (\rho_1 - \rho_2) / SE$

Then if using Excel for example, compute  $p = \text{NORMSDIST}(Z)$  to determine the appropriate deviate from the Z-distribution and compare it to the desired significance level.

**Conclusion:** Typically we want  $p < 0.05$ . Whenever this is true, we reject the null hypothesis of proportional equality in favor of the alternative hypothesis that there is a statistically significant difference between the proportions.