

ABC Hospital Chronic Conditions Analysis May 2023

Outline

I. Demographic Overview

- 3-County market Henry, Benton, and St. Clair counties
- State of Missouri

II. Chronic Conditions w/ Forecast

- 2022 chronic conditions per capita by zip code map, all payors
- 2022 per capita costs + chronic conditions per capita by diagnosis category, MO state vs. 3-county market, all payors
- 2022 chronic conditions per capita by zip code map, behavioral health, all payors
- 2022 per capita costs + chronic conditions per capita by diagnosis subcategory, MO state vs. 3-county market (top 15), all payors
- 2022 chronic conditions per capita by zip code map, hypertension, all payors
- 2022 per capita costs + chronic conditions per capita by diagnosis category, MO state vs. 3-county market, Medicaid
- 2022 per capita costs + chronic conditions per capita by diagnosis subcategory, MO state vs. 3-county market (top 15), Medicaid
- 2027 incremental cost per capita w/ growth rates by diagnosis category, 3-county market vs. MO state, all payors
- 2027 incremental circulatory cost per capita w/ growth rates, 3-county market, all payors
- 2027 incremental musculoskeletal cost per capita w/ growth rates, 3-county market, all payors
- 2027 incremental genitourinary cost per capita w/ growth rates, 3-county market, all payors
- 2027 incremental neoplasm cost per capita w/ growth rates, 3-county market (top 20 cancers), all payors
- 2027 incremental respiratory cost per capita w/ growth rates, 3-county market, all payors
- 2022 chronic conditions per capita by zip code map, COPD, all payors
- 2027 incremental nervous system cost per capita w/ growth rates, 3-county market, all payors
- 2027 incremental digestive disorder cost per capita w/ growth rates, 3-county market, all payors
- 2027 incremental behavioral health cost per capita w/ growth rates, 3-county market, all payors
- 2027 incremental substance abuse cost per capita w/ growth rates, 3-county market, all payors
- Supplemental: Total estimated growth by diagnosis category with treatment costs 2022 vs. 2027, 3-county market, all payors

III. Summary of Key Takeaways

Data Sources

- I. Demographics: Esri® current- and five-year population projections (2022 2027)
- II. Chronic Conditions Forecasting: Intellimed all-payor claims (2021), Esri® current- and five-year population projections (2022 2027), Intellimed Chronic Conditions Forecast, Intellimed Patient Journey

Definitions:

Per Capita Chronic Conditions: The total # of chronic conditions (per diagnosis category, subcategory, and in total) / total population (source Intellimed Chronic Conditions Forecast + Esri)

Per Capita Cost: The estimated 12-month cost to treat a chronic condition (per diagnosis category, subcategory, and in total) / total population (source Intellimed Patient Journey)



Demographic Overview

Demographic overview: 3-County Market Demographics

USA

1.2%

ESRI Demographic Snapshot INTELLIMED Demographic Profile System

5/9/2023 Page 1 of 1 AZ State

(County): Henry County, MO, Benton County, MO, Saint Clair County, MO

2022 Total Population

2027 Total Population

% Change 2022 - 2027

Total

51,736

100.00%

Area 335,708,066 51,736 51,733 339,902,589 -0.0% 2022 Average Household Income \$67,735 \$105,186 2027 Average Household Income \$77,756 \$122,345 2022 Per Capita Household Income \$40,363 \$29,029

	2022	2027	% Change
Total Male Population	25,853	25,951	0.4%
Total Female Population	25,883	25,782	-0.4%
Female Child Bearing Age (15 - 44)	7,291	7,088	-2.8%
Male Average Age	44.8	45.4	1.5%
Female Average Age	45.4	46.1	1.4%

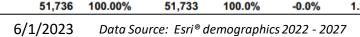
		Ag	je Distributio	n		USA
Age Group	2022	% of Total	2027	% of Total	% Change	% Change
Age 0-4	2,368	4.58%	2,339	4.5%	-1.2%	1.6%
Age 5-9	2,597	5.02%	2,564	5.0%	-1.3%	-1.3%
Age 10-14	2,688	5.20%	2,791	5.4%	3.8%	-0.1%
Age 15-19	2,476	4.79%	2,505	4.8%	1.2%	-0.6%
Age 20-24	2,163	4.18%	1,992	3.9%	-7.9%	-3.3%
Age 25-29	2,511	4.85%	2,079	4.0%	-17.2%	-8.0%
Age 30-34	2,524	4.88%	2,494	4.8%	-1.2%	1.0%
Age 35-39	2,608	5.04%	2,692	5.2%	3.2%	6.5%
Age 40-44	2,519	4.87%	2,740	5.3%	8.8%	6.5%
Age 45-49	2,868	5.54%	2,842	5.5%	-0.9%	3.0%
Age 50-54	3,158	6.10%	2,919	5.6%	-7.6%	-6.1%
Age 55-59	3,943	7.62%	3,431	6.6%	-13.0%	-8.5%
Age 60-64	4,625	8.94%	4,343	8.4%	-6.1%	-5.2%
Age 65-69	4,579	8.85%	4,809	9.3%	5.0%	5.7%
Age 70-74	4,032	7.79%	4,252	8.2%	5.5%	10.5%
Age 75-79	2,956	5.71%	3,241	6.3%	9.6%	22.4%
Age 80-84	1,669	3.23%	2,091	4.0%	25.3%	26.9%
Age 85+	1,452	2.81%	1,609	3.1%	10.8%	8.5%

	Race / Ethnicity Distribution					
Race / Ethnicity	2022 %	of Total	2027 %	6 of Total%	Change	
American Indian/Alaska Nati	294	0.6%	299	0.6%	1.7%	
Asian	179	0.3%	182	0.4%	1.7%	
Black/African American	305	0.6%	311	0.6%	2.0%	
Other Race	387	0.7%	406	0.8%	4.9%	
Pacific Islander	21	0.0%	22	0.0%	4.8%	
Population of 2 or More Race	3,041	5.9%	3,302	6.4%	8.6%	
White	47,504	91.8%	47,194	91.3%	-0.7%	
Total	51,731	100.0%	51,716	100.0%	-0.0%	
Hispanic	1,112	2.1%	1,133	2.2%	1.9%	

0		# of	Households			
Ď	Household Income	2022	% of Total	2027	% of Total	% Change
•	< \$15,000	2,804	12.7%	2,366	10.7%	-15.6%
•	\$15,000 - \$24,999	2,433	11.0%	2,027	9.1%	-16.7%
5	\$25,000 - \$34,999	2,516	11.4%	2,240	10.1%	-11.0%
,	\$35,000 - \$49,999	3,538	16.0%	3,551	16.0%	0.4%
,	\$50,000 - \$99,999	6,749	30.5%	6,774	30.5%	0.4%
5	Over \$100,000	4,117	18.6%	5,246	23.6%	27.4%
5	Total	22,157	100.0%	22,204	100.0%	0.2%
ó						

Key Takeaways

Henry, Benton, and St. Clair counties are expected to have a net decline in population in 2027, with significant shifts in age groups. Increases for ages 65+ Medicare populations and decreases in ages 45-64 commercial payer populations will result in additional financial burden for the market due to lower reimbursement rates. The estimated average household income for 2022 is 23% lower than the state average and 35% lower than the national average.



100.0%

-0.0%

1.2%



Demographic overview: State of Missouri Demographics

ESRI Demographic Snapshot INTELLIMED Demographic Profile System

Race / Ethnicity

American Indian/Alaska Nati

5/11/2023 Page 1 of 1 AZ State

2027 % of Total% Change

0.5%

2.6%

County: 130 Selected

2022 Total Population
2027 Total Population
% Change 2022 - 2027
2022 Average Household Income
2027 Average Household Income
2022 Per Capita Household Income

Area	USA
6,186,834	335,708,066
6,220,059	339,902,589
0.5%	1.2%
\$88,215	\$105,186
\$102,480	\$122,345
\$35,910	\$40,363

	2022	2027	% Change
Total Male Population	3,040,076	3,062,289	0.7%
Total Female Population	3,146,758	3,157,770	0.3%
Female Child Bearing Age (15 - 44)	1,180,030	1,164,422	-1.3%
Male Average Age	38.2	38.8	1.6%
Female Average Age	39.8	40.5	1.7%

30,823

Race / Ethnicity Distribution

31,613

0.5%

2022 % of Total

			- Block III - II			110.4
			e Distributio			USA
Age Group	2022	% of Total	2027	% of Total	% Change %	6 Change
Age 0-4	357,123	5.77%	357,485	5.7%	0.1%	1.6%
Age 5-9	372,518	6.02%	367,761	5.9%	-1.3%	-1.3%
Age 10-14	380,006	6.14%	383,167	6.2%	0.8%	-0.1%
Age 15-19	382,013	6.17%	386,903	6.2%	1.3%	-0.6%
Age 20-24	395,008	6.38%	380,367	6.1%	-3.7%	-3.3%
Age 25-29	418,876	6.77%	371,505	6.0%	-11.3%	-8.0%
Age 30-34	415,351	6.71%	407,870	6.6%	-1.8%	1.0%
Age 35-39	405,072	6.55%	417,693	6.7%	3.1%	6.5%
Age 40-44	372,650	6.02%	400,002	6.4%	7.3%	6.5%
Age 45-49	356,372	5.76%	373,576	6.0%	4.8%	3.0%
Age 50-54	369,313	5.97%	345,981	5.6%	-6.3%	-6.1%
Age 55-59	413,191	6.68%	361,196	5.8%	-12.6%	-8.5%
Age 60-64	412,167	6.66%	389,664	6.3%	-5.5%	-5.2%
Age 65-69	361,294	5.84%	386,226	6.2%	6.9%	5.7%
Age 70-74	295,081	4.77%	324,185	5.2%	9.9%	10.5%
Age 75-79	210,707	3.41%	251,775	4.0%	19.5%	22.4%
Age 80-84	133,150	2.15%	167,559	2.7%	25.8%	26.9%
Age 85+	136,942	2.21%	147,144	2.4%	7.4%	8.5%
Total	6,186,834	100.00%	6,220,059	100.0%	0.5%	1.2%

\$25,000 - \$34,999 \$35,000 - \$49,999 \$50,000 - \$99,999 Over \$100,000	211,587 312,686 798,139 710,776 2,498,537	8.5% 12.5% 31.9% 28.4%	6 6	173,478 286,413 800,483 884,653 521,551	6.9% 11.4% 31.7% 35.1% 100.0%	-18.0% -8.4% 0.3% 24.5% 0.9%
\$25,000 - \$34,999 \$35,000 - \$49,999 \$50,000 - \$99,999	312,686 798,139	12.5% 31.9%	, , ,	286,413 800,483	11.4% 31.7%	-8.4% 0.3%
\$25,000 - \$34,999 \$35,000 - \$49,999	312,686	12.5%	6	286,413	11.4%	-8.4%
\$25,000 - \$34,999						
	211,587	8.5%	6	173,478	6.9%	-18.0%
Ţ.0,000 ŢZ.,000						
\$15,000 - \$24,999	216,964	8.7%	6	181,259	7.2%	-16.5%
< \$15,000	248,385	9.9%	6	195,265	7.7%	-21.4%
Household Income	2022	% of Tota		2027	% of Total	% Change
		Household		020,20	7 0.170	0.070
Hispanic	309	.089	5.0%	320,294	4 5.1%	3.6%
Total	6,186	,830 10	0.0%	6,220,074	100.0%	0.5%
White	4,738	3,112 7	6.6%	4,700,077	7 75.6%	-0.8%
Population of 2 or More Race	435	,663	7.0%	485,950	7.8%	11.5%
Pacific Islander	9	,981	0.2%	10,423	3 0.2%	4.4%
Other Race	131	,850	2.1%	141,674	4 2.3%	7.5%
Diack/Afficall Afficilicall	703	3,581 1	1.4%	704,747	7 11.3%	0.2%
Black/African American						

Key Takeaways

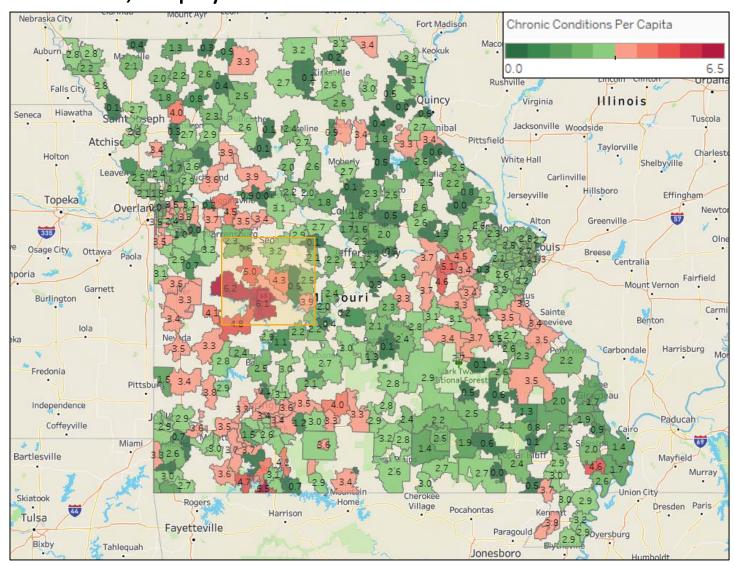
The state-wide population is expected to grow less than the national average in 2027, and heavy-utilizing commercial payer healthcare populations ages 50-64 are expected to decline at a higher rate than the national average. Unlike the 3county market area for ABC Hospital, the race demographics for the state are more diverse, with moderate growth expected for black and mixed-race populations by 2027.

6/1/2023 Data Source: Esri® demographics 2022 - 2027



Chronic ConditionsForecast

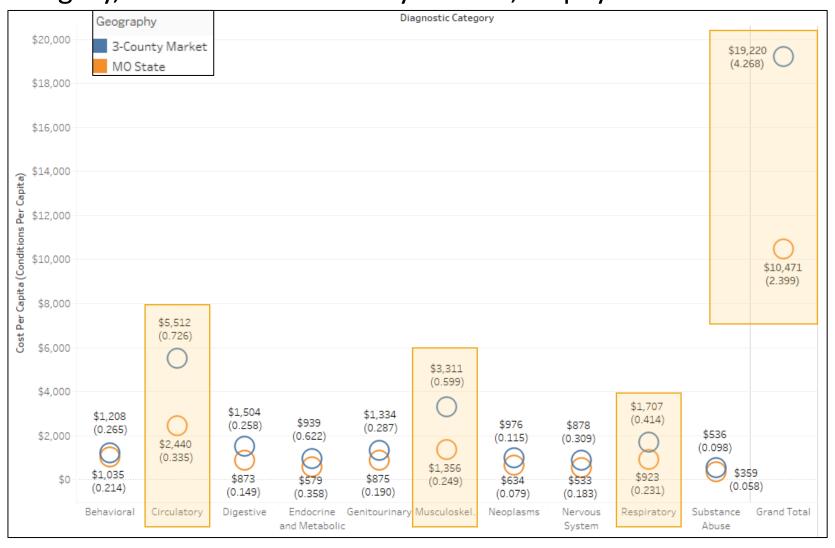
Chronic Conditions – 2022 chronic conditions per capita by zip code map, all chronic conditions, all payors



Key Takeaways

2022 chronic conditions per capita in the 3-county market area are significantly higher per zip code than for most other zip codes in the state of MO.

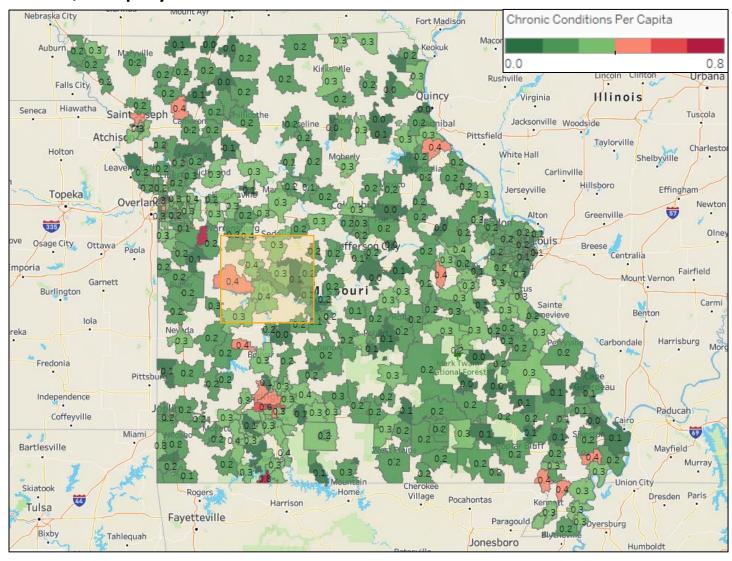
Chronic Conditions – 2022 per capita costs + chronic conditions per capita by diagnosis category, MO state vs. 3-county market, all payors



Key Takeaways

For Henry, Benton and St. Clair counties, there were an estimated 4.3 chronic conditions per capita in 2022 vs. the statewide average of 2.4 resulting in a much higher estimated annual cost per capita of almost \$20K vs. the state average of approximately \$10.5K. Among the categories with the highest variance in prevalence and cost per capita are circulatory, musculoskeletal, and respiratory diseases.

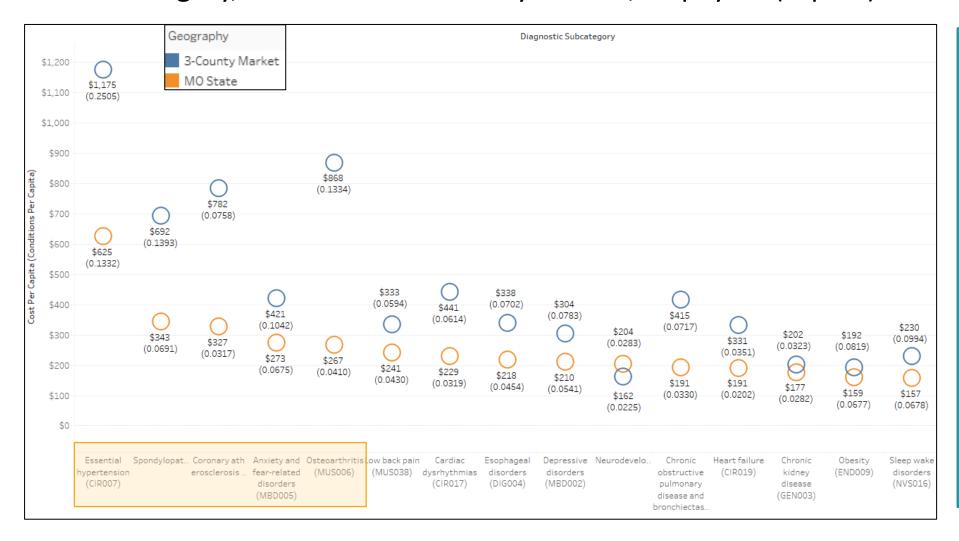
Chronic Conditions – 2022 chronic conditions per capita by zip code map, behavioral health, all payors



Key Takeaways

Behavioral health chronic condition prevalence rates per capita are fragmented throughout the state of MO.

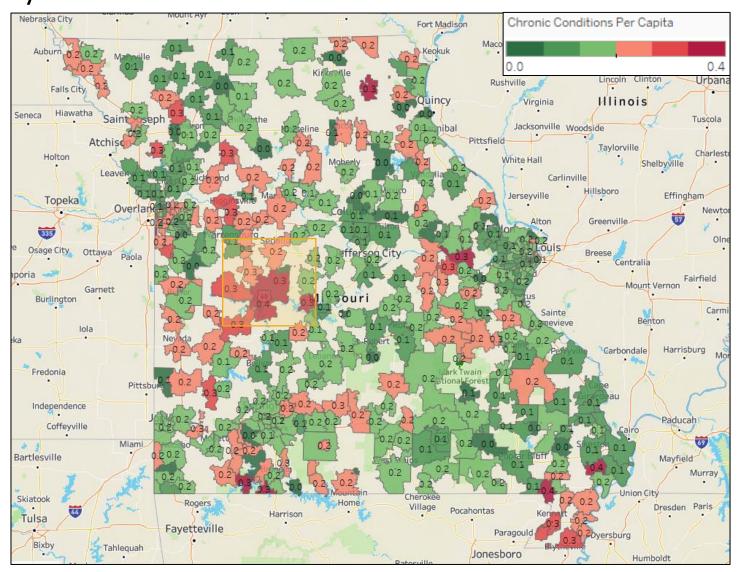
Chronic Conditions – 2022 per capita costs + chronic conditions per capita by diagnosis subcategory, MO state vs. 3-county market, all payors (top 15)



Key Takeaways

When comparing the top 15 diagnosis subcategories for chronic conditions by estimated annual treatment cost, the largest categories in the 3-county market area with significant differential vs. the state average are for hypertension, spondylopathies, coronary atherosclerosis, and osteoarthritis. For example, the average annual cost per capita to treat hypertension is \$1,175 for the 3-county market area vs \$625 for the state of MO.

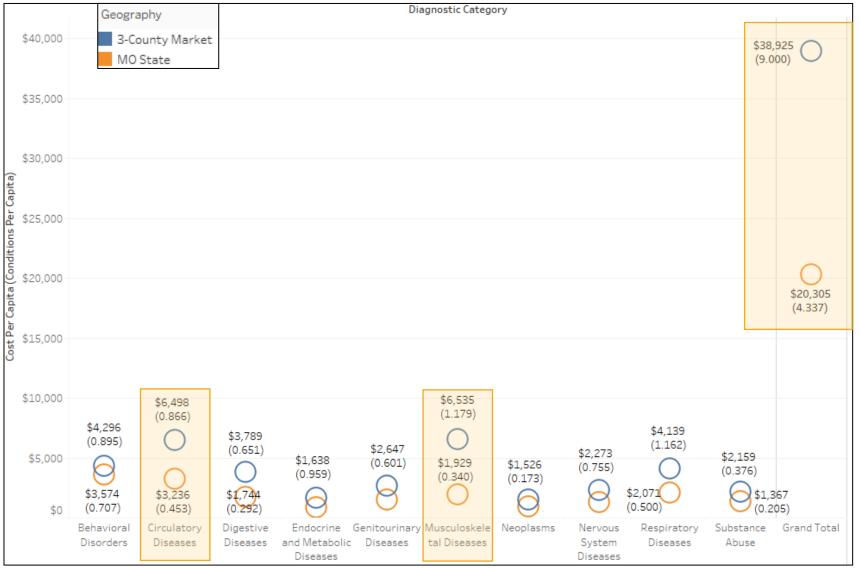
Chronic Conditions – 2022 chronic conditions per capita by zip code map, hypertension, all payors



Key Takeaways

Hypertension chronic condition prevalence rates per capita are relatively higher in the 3-county market area than other regions in the state of MO.

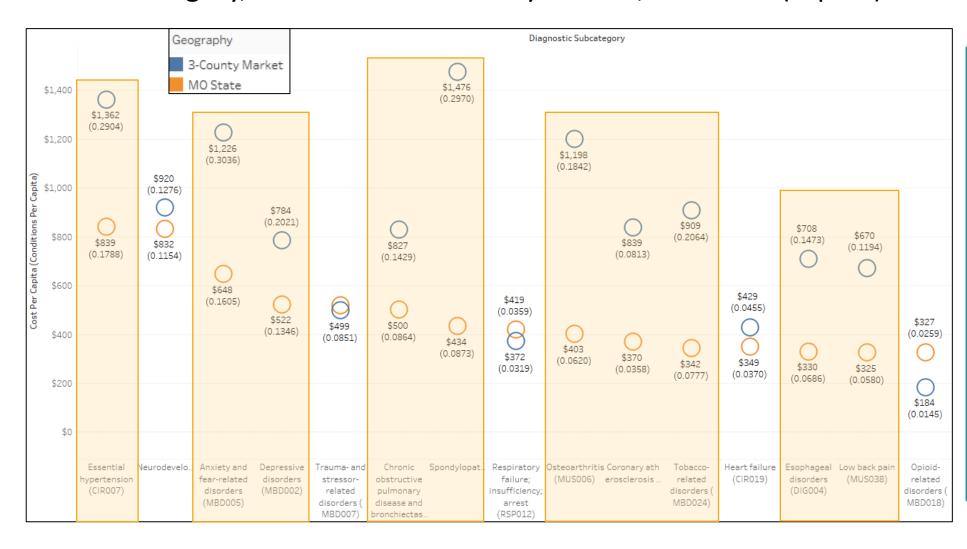
Chronic Conditions – 2022 per capita costs + chronic conditions per capita by diagnosis category, MO state vs. 3-county market, Medicaid



Key Takeaways

The per capita estimated annual Medicaid costs for the 3-county market are significantly higher than that of the state, due to a higher incidence rate of chronic conditions per Medicaid enrollee (9 conditions per enrollee for the 3-county market vs. 4.3 for the state). Among the chronic condition categories with the highest variance between the 3county market area and the state are circulatory and musculoskeletal diseases followed by respiratory and digestive diseases.

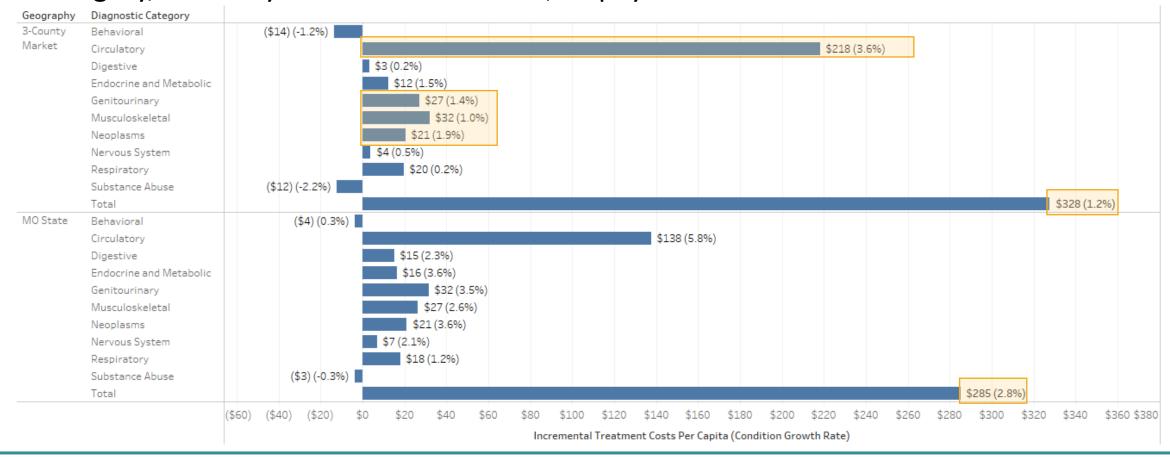
Chronic Conditions – 2022 per capita costs + chronic conditions per capita by diagnosis subcategory, MO state vs. 3-county market, Medicaid (top 15)



Key Takeaways

Among the top 15 most costly diagnosis subcategories, those with the highest variation in estimated cost due to higher prevalence rates for Medicaid enrollees are hypertension, anxiety and fear-related disorders. depressive disorders, COPD, spondylopathies, osteoarthritis, coronary atherosclerosis, tobaccorelated disorders, esophageal disorders, and low back pain.

Chronic Conditions – 2027 incremental cost per capita w/ growth rates by diagnosis category, 3-county market vs. MO state, all payors



Key Takeaways

Circulatory diseases are projected to have the highest growth rates (3.6%) in 2027 and incremental annual cost per capita (+\$\frac{1}{2}18\$) for the 3-county market area, with musculoskeletal, genitourinary, and neoplasms also contributing to a net increase in healthcare costs.

Per-capita incremental annual healthcare costs are expected to be higher than the state (+\$328 vs. +\$285).

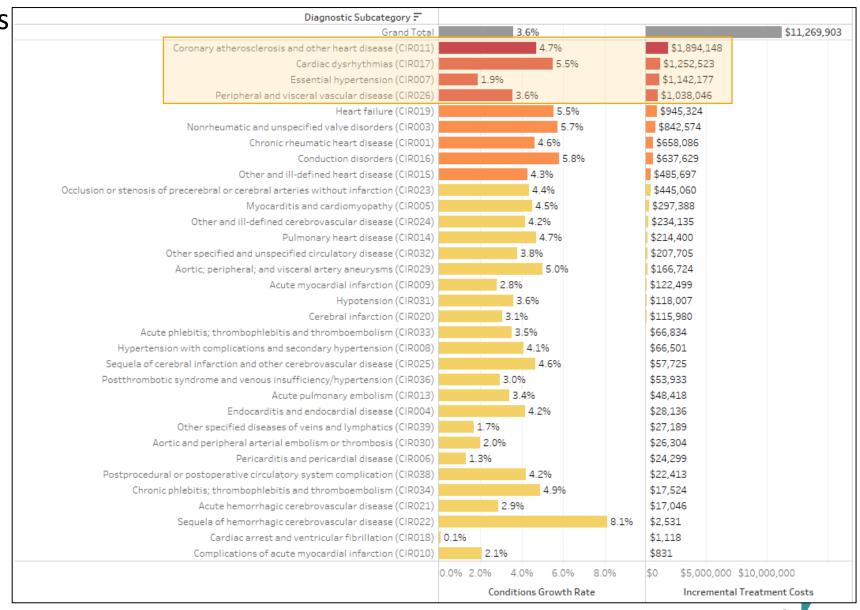
Chronic Conditions – 2027 incremental circulatory cost per capita w/ growth rates, 3-

county market, all payors

Key Takeaways

The top circulatory diseases contributing to an annual per capita cost increase in 2027 are atherosclerosis, cardiac dysrhythmias, hypertension and peripheral and visceral vascular disease. All circulatory diseases are expected to grow by 3.6% in 2027 resulting in an additional \$11.2M in annual healthcare costs for the 3-county market area.



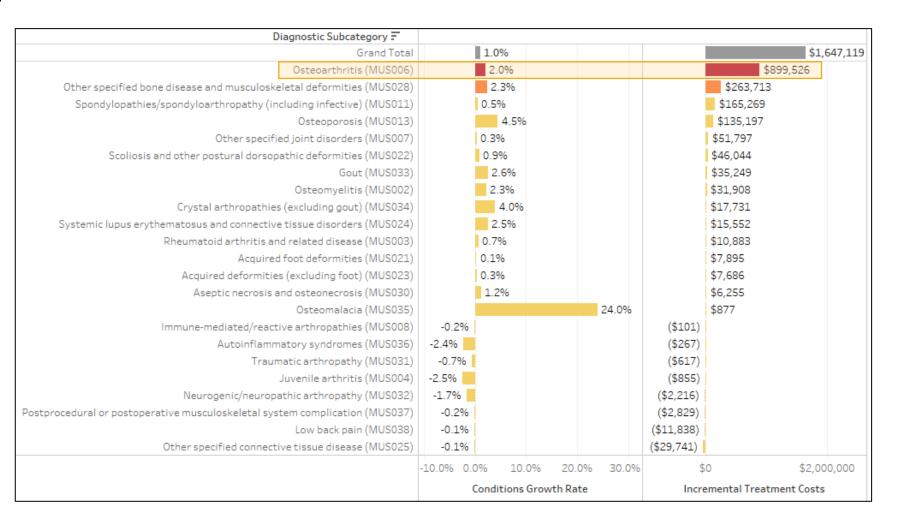


Chronic Conditions – 2027 incremental musculoskeletal cost per capita w/ growth rates, 3-county market, all payors

Key Takeaways

Treatment for arthritis will contribute to most of the incremental annual healthcare costs for musculoskeletal-related diseases in the 3-county market area in 2027. Total estimated incremental healthcare costs associated with musculoskeletal conditions is expected to exceed \$1.6M.

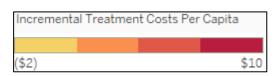


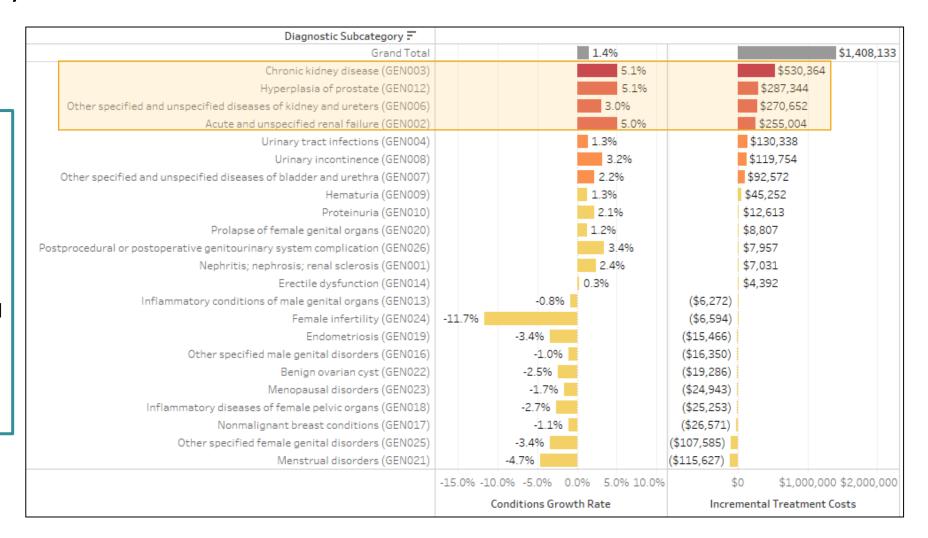


Chronic Conditions – 2027 incremental genitourinary cost per capita w/ growth rates, 3-county market, all payors

Key Takeaways

Chronic kidney disease and renal failure are among the top diagnosis subcategories contributing to an increase in growth rates and incremental annual healthcare costs by 2027 for the 3-county market area. Total estimated incremental healthcare costs associated with genitourinary conditions is expected to exceed \$1.4M.

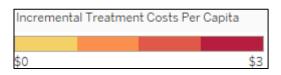


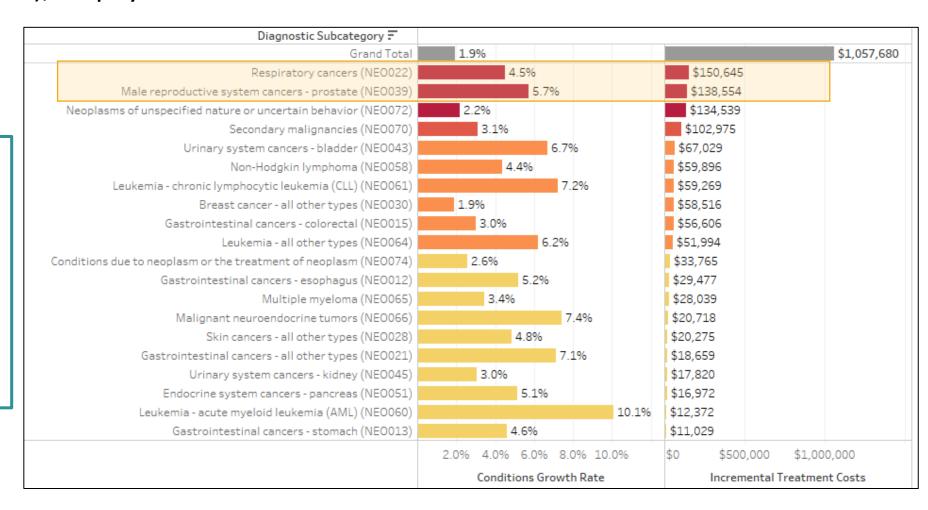


Chronic Conditions – 2027 incremental neoplasm cost per capita w/ growth rates, 3-county market (top 20 cancers), all payors

Key Takeaways

Respiratory and male reproductive cancers are expected to have the highest incremental costs among neoplasm diagnoses in 2027 for the 3-county market area. Total estimated incremental healthcare costs associated with oncology conditions is expected to be over \$1M.

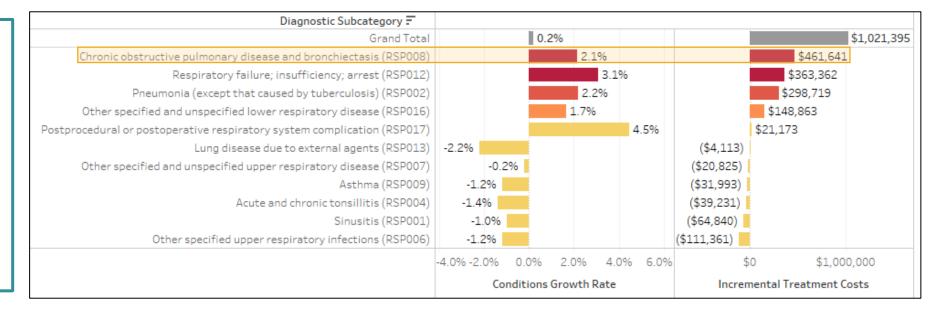


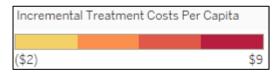


Chronic Conditions – 2027 incremental respiratory cost per capita w/ growth rates, 3-county market, all payors

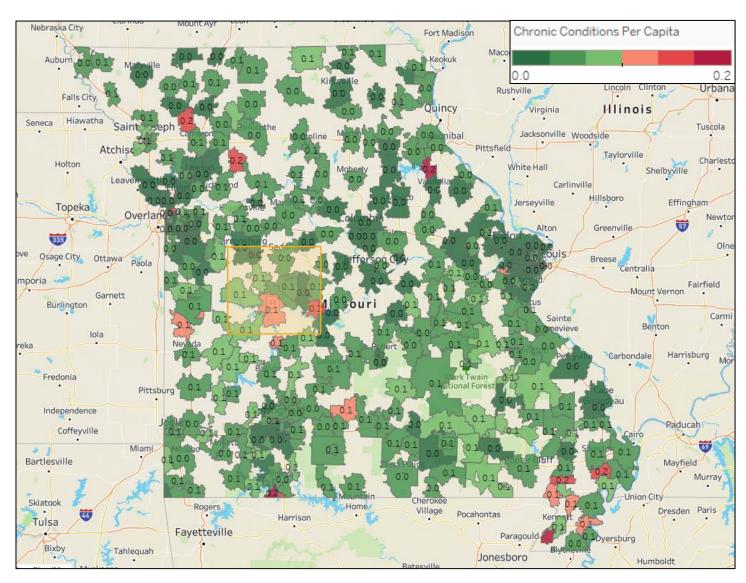
Key Takeaways

COPD is expected to carry the heaviest incremental cost burden in 2027 among respiratory-related conditions. Total estimated incremental healthcare costs associated with respiratory conditions is expected to be over \$1M in 2027 in the 3-county market area.





Chronic Conditions – 2022 chronic conditions per capita by zip code map, COPD, all payors



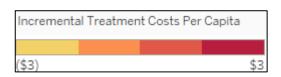
Key Takeaways

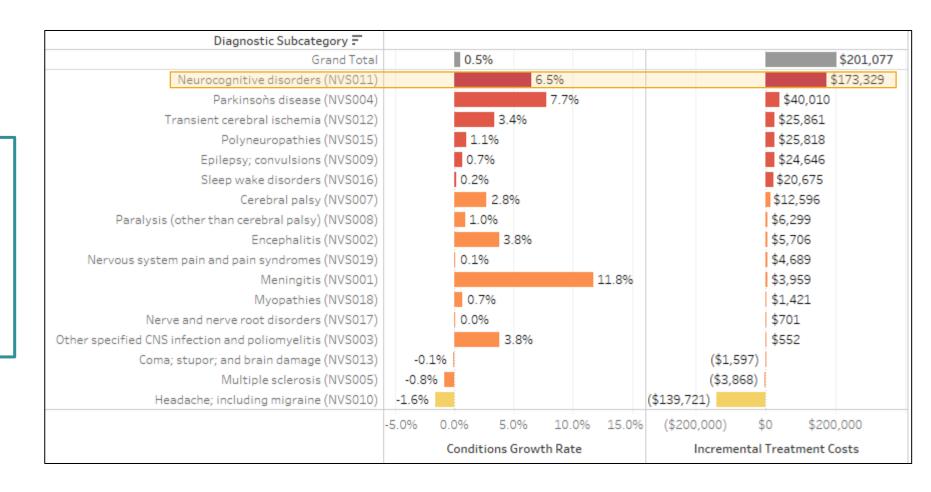
COPD chronic condition prevalence rates per capita are fragmented throughout the state of MO.

Chronic Conditions – 2027 incremental nervous system cost per capita w/ growth rates, 3-county market, all payors

Key Takeaways

Neurocognitive disorders are expected to grow by 6.5% in 2027 and are forecasted to make up most of the \$201K in incremental healthcare costs for nervous system disorders in the 3-county market area.

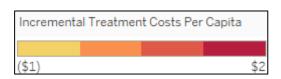


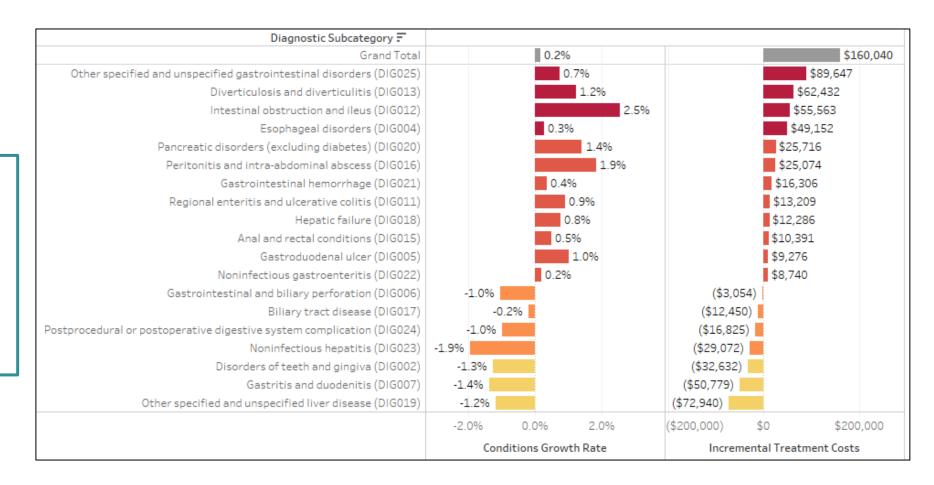


Chronic Conditions – 2027 incremental digestive disorder cost per capita w/ growth rates, 3-county market, all payors

Key Takeaways

Digestive disorders aren't expected to grow materially in 2027 in the 3-county market area (0.2% total growth for the category with an incremental \$160K estimated in annual healthcare costs).

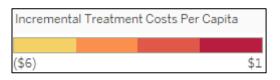


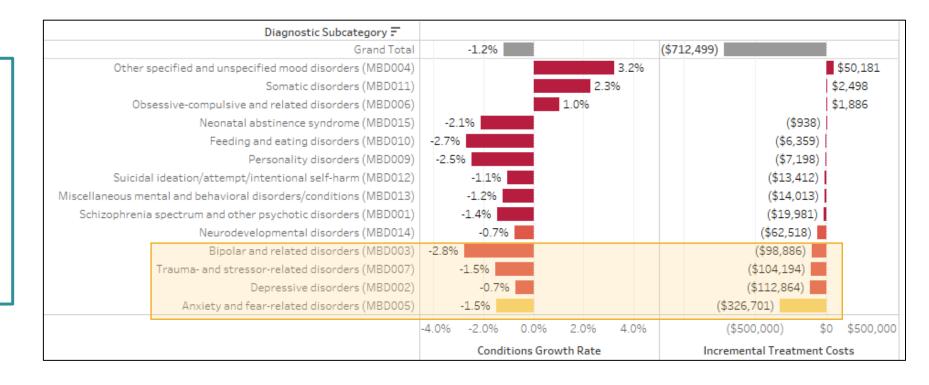


Chronic Conditions – 2027 incremental behavioral health cost per capita w/ growth rates, 3-county market, all payors

Key Takeaways

Annual costs related to behavioral health disorders are expected to decline by just over \$700K in 2027 in the 3-county market area, led by reductions in bipolar disorder, trauma and stressor-related disorder, depressive disorder and anxiety-related disorders.

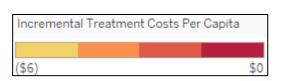


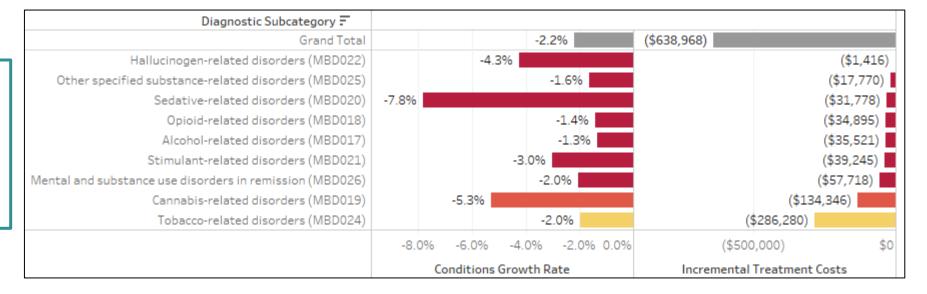


Chronic Conditions – 2027 incremental substance abuse cost per capita w/ growth rates, 3-county market, all payors

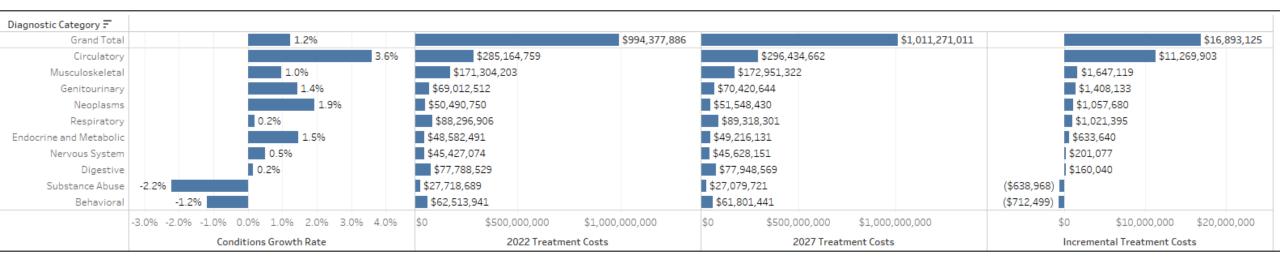
Key Takeaways

Reductions in patients with substance abuse-related disorders are expected across all subcategories in 2027 for the 3-county market area.





Supplemental: Total estimated growth by diagnosis category with treatment costs 2022 vs. 2027, 3-county market, all payors



Summary of Key Takeaways

Summary of Key Takeaways

- Henry, Benton, and St. Clair counties are expected to have a net decline in population in 2027, with significant shifts in age groups. Increases for ages 65+ Medicare populations and decreases in ages 45-64 commercial payer populations will result in additional financial burden for the market due to lower reimbursement rates. The estimated average household income for 2022 is 23% lower than the state average and 35% lower than the national average.
- The state-wide population is expected to grow less than the national average in 2027, and heavy-utilizing commercial payer healthcare populations ages 50-64 are expected to decline at a higher rate than the national average. Unlike the 3-county market area for GVMC, the race demographics for the state are more diverse, with moderate growth expected for black and mixed-race populations by 2027.
- 2022 chronic conditions per capita in the 3-county market area are significantly higher per zip code than for most other zip codes in the state of MO.
- For Henry, Benton and St. Clair counties, there were an estimated 4.3 chronic conditions per capita in 2022 vs. the statewide average of 2.4 resulting in a much higher estimated annual cost per capita of almost \$20K vs. the state average of approximately \$10.5K. Among the categories with the highest variance in prevalence and cost per capita are circulatory, musculoskeletal, and respiratory diseases.
- The per capita estimated annual Medicaid costs for the 3-county market are significantly higher than that of the state, due to a higher incidence rate of chronic conditions per Medicaid enrollee (9 conditions per enrollee for the 3-county market vs. 4.3 for the state). Among the chronic condition categories with the highest variance between the 3-county market area and the state are circulatory and musculoskeletal diseases followed by respiratory and digestive diseases.
- Among the top 15 most costly diagnosis subcategories, those with the highest variation in estimated cost due to higher prevalence rates
 for Medicaid enrollees are hypertension, anxiety and fear-related disorders, depressive disorders, COPD, spondylopathies, osteoarthritis,
 coronary atherosclerosis, tobacco-related disorders, esophageal disorders, and low back pain.
- When comparing the top 15 diagnosis subcategories for chronic conditions by estimated annual treatment cost, the largest categories in the 3-county market area with significant differential vs. the state average are for hypertension, spondylopathies, coronary atherosclerosis, and osteoarthritis. For example, the average annual cost per capita to treat hypertension is \$1,175 for the 3-county market area vs \$625 for the state of MO.

I/N

Summary of Key Takeaways

- Circulatory diseases are projected to have the highest growth rates (3.6%) in 2027 and incremental annual cost per capita (+\$218) for the 3-county market area, with musculoskeletal, genitourinary, and neoplasms also contributing to a net increase in healthcare costs. Percapita incremental annual healthcare costs are expected to be higher than the state (+\$328 vs. +\$285).
- The top circulatory diseases contributing to an annual per capita cost increase in 2027 are atherosclerosis, cardiac dysrhythmias, hypertension and peripheral and visceral vascular disease. All circulatory diseases are expected to grow by 3.6% in 2027 resulting in an additional \$11.2M in annual healthcare costs for the 3-county market area.
- Treatment for arthritis will contribute to most of the incremental annual healthcare costs for musculoskeletal-related diseases in the 3county market area in 2027. Total estimated incremental healthcare costs associated with musculoskeletal conditions is expected to exceed \$1.6M.
- Chronic kidney disease and renal failure are among the top diagnosis subcategories contributing to an increase in growth rates and incremental annual healthcare costs by 2027 for the 3-county market area. Total estimated incremental healthcare costs associated with genitourinary conditions is expected to exceed \$1.4M.
- Respiratory and male reproductive cancers are expected to have the highest incremental costs among neoplasm diagnoses in 2027 for the 3-county market area. Total estimated incremental healthcare costs associated with oncology conditions is expected to be over \$1M.
- COPD is expected to carry the heaviest incremental cost burden in 2027 among respiratory-related conditions. Total estimated
 incremental healthcare costs associated with respiratory conditions is expected to be over \$1M in 2027 in the 3-county market area.
- Neurocognitive disorders are expected to grow by 6.5% in 2027 and are forecasted to make up most of the \$201K in incremental healthcare costs for nervous system disorders in the 3-county market area.
- Digestive disorders aren't expected to grow materially in 2027 in the 3-county market area (0.2% total growth for the category with an incremental \$160K estimated in annual healthcare costs).
- Annual costs related to behavioral health disorders are expected to decline by just over \$700K in 2027 in the 3-county market area, led by reductions in bipolar disorder, trauma and stressor-related disorder, depressive disorder and anxiety-related disorders.
- Reductions in patients with substance abuse-related disorders are expected across all subcategories in 2027 for the 3-county market area.

MI