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### Covering the Care: Most Prevalent Health Conditions and Their Associated Costs Among NH's Insured Population – Behavioral Health and Cardiovascular Disease Top the List

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# Covering the Care:

## Most Prevalent Health Conditions and Their Associated Costs Among NH's Insured Population – Behavioral Health and Cardiovascular Disease Top the List

### EXECUTIVE SUMMARY

This data brief presents an analysis of available claims data from New Hampshire's commercial, Medicaid, and Medicare insured populations. Specifically, the study identifies the top ten most prevalent health conditions, the cost of treatment for those conditions, and the overall medical cost for those with one of the identified conditions. The analysis is based on the most recent calendar year of available claims data (January – December 2022).<sup>1</sup>

Behavioral health conditions, cardiovascular disease (ischemic heart disease), and conditions that have been identified as risk factors for cardiovascular disease (hypertension, diabetes, obesity, and hyperlipidemia) were among the most prevalent, costly to treat, and contributed significantly to member's overall medical costs.<sup>2</sup> Generally, cardiovascular conditions and risk factors were most frequently identified in the NH Medicare insured populations. In contrast, behavioral health conditions were frequently identified in commercial and NH Medicaid insured populations; behavioral health conditions were not in the top ten for the NH Medicare insured population.

Members with the highest total average medical costs were NH Medicare members with ischemic heart disease, followed by NH Medicaid members with hypertension, and commercial insured members with back joint degeneration.

Given the prominence of these cardiovascular disease risk factors and behavioral health conditions, further analysis of these conditions is warranted.

### TERMS AND NOTATIONS

Administrative health care claims data were analyzed to determine the top ten most prevalent conditions using the Optum Symmetry Episode Treatment Grouper software for each of the payer types (commercial, NH Medicaid, and NH Medicare). Disease prevalence<sup>3</sup> was measured by determining the percentage of insured members assigned a respective

### DEFINITIONS

**Conditions:** Conditions were identified using the OPTUMInsight's Symmetry Episode Treatment Groups® (ETGs) software.<sup>8</sup> ETGs are assigned by utilizing all medical services related to the treatment of a specific condition, based on claims and encounter data, allowing for the measurement and analysis of health care utilization and costs across different payer categories. This analysis includes both acute and chronic conditions.

**Per Member Per Month (PMPM):** Total amount paid for medical services, spread across all the members, for the month.

**Back joint degeneration:** Examples of diagnosis codes associated with the ETG known as "Joint degeneration, localized – back" include low back pain, radiculopathy of the lumbar region, segmental and somatic dysfunction of the lumbar or thoracic regions, spondylosis, intervertebral disc disorders, cervicgia and sciatica.

**Eye-related conditions:** Examples of diagnosis codes associated with the ETG known as "Visual disturbances" include: encounter for exam of eyes and vision with or without abnormal findings, bilateral myopia, bilateral hypermetropia, presbyopia, and bilateral astigmatism.

Episode Treatment Group (ETG), based on the diagnosis, procedure, and drug code(s) listed on their medical claims. Disease prevalence was estimated for each payer category (commercial, NH Medicaid, NH Medicare).<sup>4,5</sup>

For each of the top ten most prevalent conditions, the claims data were subsequently analyzed to estimate the costs of treating those conditions, as well as the total medical costs of the members with those conditions and any co-occurring conditions and other health services.

Healthcare costs were measured using a per member per month (PMPM) cost metric, which reflects the total paid amount for medical services, averaged across all the members of the respective payer category, for the month.

This analysis included commercial and NH Medicaid members ages 0-64 and NH Medicare members of all ages. All members were required to have at least one month of medical eligibility in the analytic period to be included in the analysis. Additional briefs will analyze data exclusively for chronic conditions and conditions with the highest overall costs regardless of prevalence among insured members.

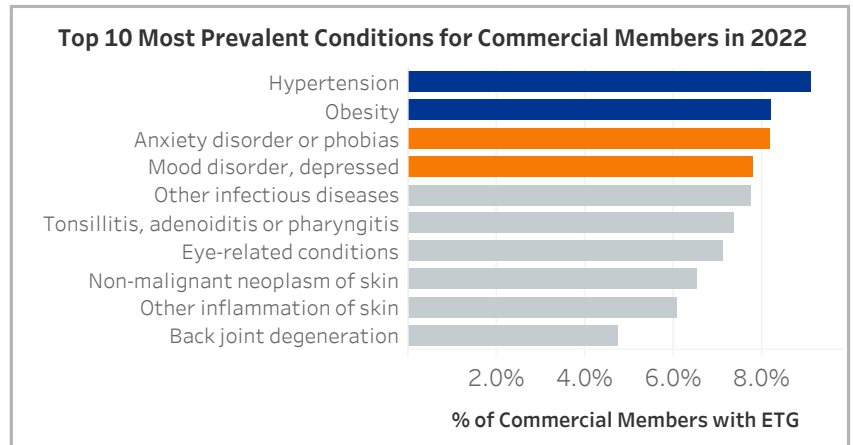
## TOP HEALTH CONDITIONS: FINDINGS

### COMMERCIAL

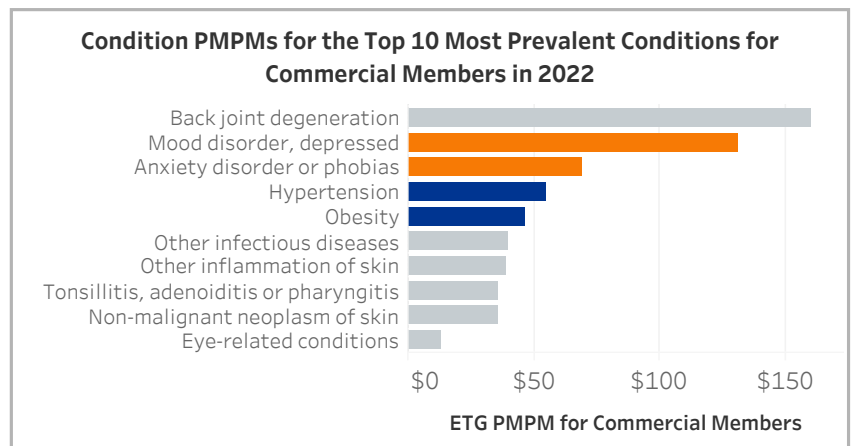
In the commercial claims data available, **hypertension was the most prevalent condition**, affecting 9.1% of members in 2022. Obesity and anxiety disorder or phobias followed closely, each affecting 8.2% of members (**Figure 1**).

**Back joint degeneration was the costliest condition** within the top ten conditions

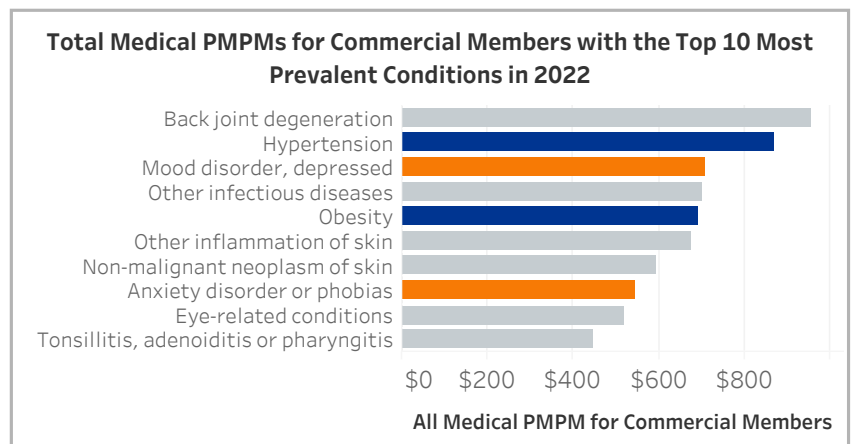
**Figure 1: Top 10 Most Prevalent Conditions for Commercial Members in 2022**



**Figure 2: Condition PMPMs for the Top 10 Most Prevalent Conditions for Commercial Members in 2022**



**Figure 3: Total Medical PMPMs for Commercial Members with the Top 10 Most Prevalent Conditions in 2022**



### Condition Categories

- Cardiovascular Diseases and/or Risk Factors
- Behavioral Health Conditions
- Other Conditions

to treat. It affected 4.7% of members and had an average PMPM cost of \$160. The next two most expensive conditions were mood disorder (depressed), affecting 7.8% of members with a PMPM cost of \$131, and anxiety disorder or phobias, affecting 8.1% of members with a PMPM cost of \$69 (Figure 2).

Members with **back joint degeneration also faced the highest average total medical costs**, amounting to \$956 PMPM (Figure 3). Members with hypertension closely followed in terms of highest average total medical costs, with an average PMPM cost of \$870, followed by members with mood disorder (depressed) at \$709 PMPM as shown in Figure 3.

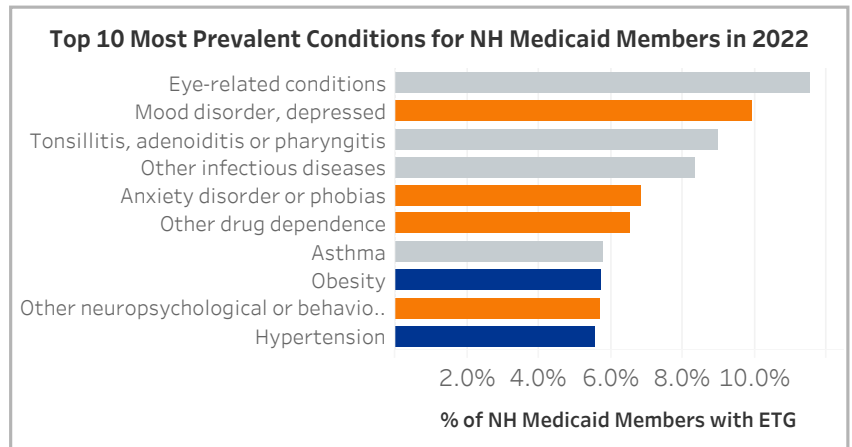
## NH MEDICAID

**Eye-related conditions were the most prevalent** among NH Medicaid insured members in 2022, affecting 11.5% of members (Figure 4). The next most common conditions were mood disorder (depressed), impacting 9.9% of members; and tonsillitis, adenoiditis or pharyngitis, impacting 9.0% of members.

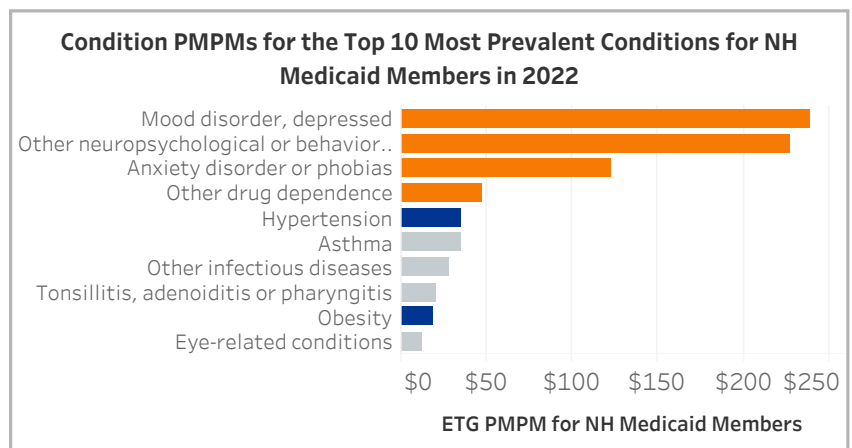
**Behavioral health conditions were the most expensive to treat** among the top ten most prevalent conditions identified. Mood disorder (depressed) topped the list with an average PMPM cost of \$239, followed by other neuropsychological or behavioral disorders at \$227 PMPM, and anxiety disorder or phobias at \$123 PMPM (Figure 5). These conditions affected 9.9%, 5.7%, and 6.8% of members, respectively.

Findings indicated that NH Medicaid members with **hypertension had the highest average total medical costs**, amounting to \$1,030 PMPM (Figure 6). This was followed by other neuropsychological

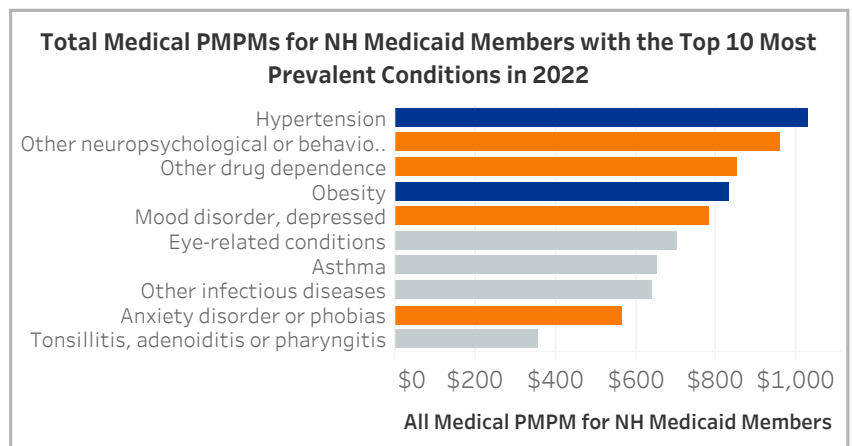
**Figure 4: Top 10 Most Prevalent Conditions for NH Medicaid Members in 2022**



**Figure 5: Condition PMPMs for the Top 10 Most Prevalent Conditions for NH Medicaid Members in 2022**



**Figure 6: Total Medical PMPMs for NH Medicaid Members with the Top 10 Most Prevalent Conditions in 2022**



### Condition Categories

- Cardiovascular Diseases and/or Risk Factors
- Behavioral Health Conditions
- Other Conditions

## COVERING THE CARE: TOP HEALTH CONDITIONS AND THEIR ECONOMIC IMPACT ACROSS NH

and behavioral disorders and other drug dependence, with average total medical costs of \$961 and \$852 PMPM, respectively.

## NH MEDICARE

In the available NH Medicare claims data, **hypertension was the most prevalent condition** in 2022, affecting 42.9% of members. Cataracts and hyperlipidemia followed at 24.5% and 21.2%, respectively (**Figure 7**).

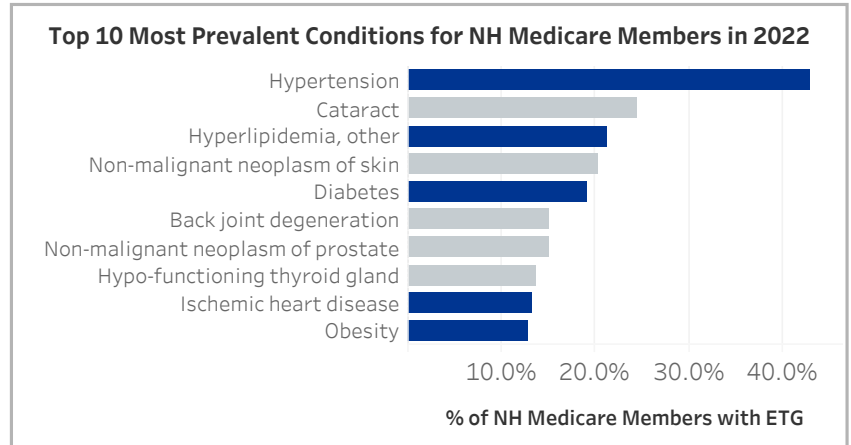
**Ischemic heart disease stood out as the most expensive condition** among the top ten most prevalent conditions for NH Medicare members, with an average PMPM cost of \$196. Closely following this, back joint degeneration had a PMPM cost of \$147, while treatment for diabetes cost \$91 PMPM (**Figure 8**).

NH Medicare enrollees with **ischemic heart disease had the highest average total medical costs**, amounting to \$1,352 PMPM (**Figure 9**). Those with back joint degeneration followed with an average total medical cost of \$1,188 PMPM, and members with diabetes ranked third in terms of overall cost with an average total medical cost of \$1,056 PMPM.

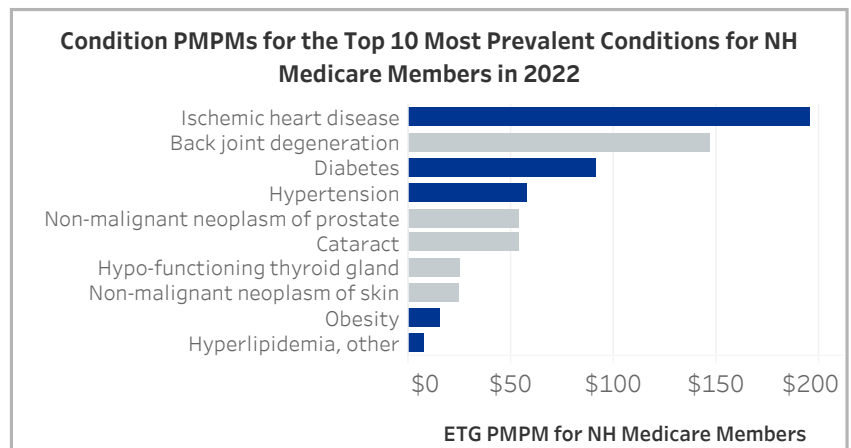
## DISCUSSION

According to this analysis, behavioral health conditions, cardiovascular disease (ischemic heart disease), and conditions that have been identified as risk factors for cardiovascular disease (hypertension, diabetes, obesity, and hyperlipidemia) were among the most prevalent in all populations. These conditions also had the highest treatment costs and overall medical costs across the three payers. Cardiovascular conditions and risk factors were more frequently identified in the NH

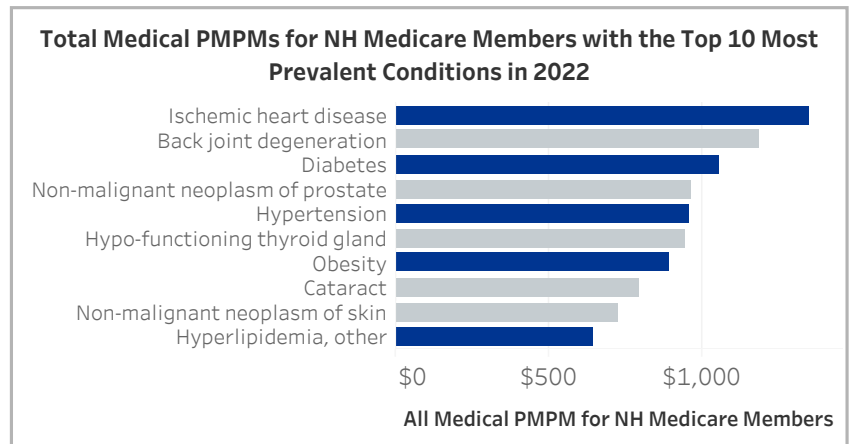
**Figure 7: Top 10 Most Prevalent Conditions for NH Medicare Members in 2022**



**Figure 8: Condition PMPMs for the Top 10 Most Prevalent Conditions for NH Medicare Members in 2022**



**Figure 9: Total Medical PMPMs for NH Medicare Members with the Top 10 Most Prevalent Conditions in 2022**



### Condition Categories

- Cardiovascular Diseases and/or Risk Factors
- Behavioral Health Conditions
- Other Conditions

Medicare insured populations. In contrast, behavioral health conditions were more frequently identified in commercial and NH Medicaid insured populations. Notably, cardiovascular disease and depression have been linked in literature over the last decade.<sup>6,7</sup>

## CARDIOVASCULAR DISEASES AND RISK FACTORS

The prevalence of hypertension and obesity among the top ten most prevalent conditions across all three payer populations is notable, given their status as significant risk factors for cardiovascular diseases.

While present in the top ten for prevalence among the three populations, the actual percentage rates of hypertension were notably different among the three populations. It affected 42.9% of NH Medicare members which is nearly five times more than the 9.1% of commercial members and almost eight times more than the 5.6% of NH Medicaid members. Despite these differences in prevalence, members with hypertension across all three payers had some of the highest average total average medical PMPM costs: \$1,030 for NH Medicaid, \$962 for NH Medicare, and \$870 for commercial. Prevalence rates for obesity were more consistent across the three populations, ranging from a low of 5.7% among NH Medicaid members to 8.2% of the commercial insured, and a high of 12.8% among NH Medicare members. The cost of treating obesity was lowest among NH Medicaid and Medicare members, with PMPM costs of \$16 and \$18, respectively, compared to \$46 for commercial members. However, NH Medicaid and Medicare members with obesity had higher total PMPM medical costs, averaging \$834 and \$894, respectively, while commercial members had lower medical costs at \$694.

Finally, ischemic heart disease, which appeared in the top ten most prevalent conditions only among NH Medicare members, was the costliest condition for this population, with an average treatment PMPM cost of \$196 and total medical costs for members with this condition soaring to \$1,352 PMPM.

Given the high total average medical costs associated with these conditions, further examination of risk factors and prevention strategies is warranted, as this suggests that members may face substantial financial burdens for their care.

## BEHAVIORAL HEALTH CONDITIONS

Behavioral health conditions were notably absent from NH Medicare's top ten conditions. This contrasts with the commercial and NH Medicaid groups, where behavioral health conditions – such as mood disorder (depressed), anxiety disorder or phobias, other neuropsychological and behavioral disorders – were among the most prevalent and costly conditions in terms of both treatment for the condition and total average medical PMPM costs. However,

### DISCUSSION NOTE:

Variations in the prevalence of certain conditions and their associated treatment costs may be reflective of the distinct demographics within each group. For instance, the analysis of the commercial and NH Medicaid populations excluded members aged 65 and older, while a majority of the NH Medicare population is in this age bracket.<sup>9</sup> Similarly, conditions more common among older adults, such as hypertension, cataracts, and glaucoma, are known to be more prevalent in the Medicare group.<sup>10,11</sup>

Conversely, the analysis of NH Medicaid claims data indicated that eye-related conditions and tonsillitis, adenoiditis, or pharyngitis – common among children – were particularly prevalent.<sup>12,13</sup> These findings are in alignment with an estimate that 40% of NH Medicaid members were under 21 years of age in December of 2022.<sup>14</sup> In considering the results of this analysis, it is important to consider the distinct demographic makeup of each of the three insured groups.



analysis that extended beyond the top ten conditions showed a 9.0% (ranked #14) prevalence rate of mood disorder (depressed) among the NH Medicare population which is a similar rate as the NH Medicaid population. This indicates that behavioral health conditions are not necessarily less prevalent in this population, but rather, other conditions are notably more common.

When comparing behavioral health conditions among commercial and NH Medicaid populations, several notable differences emerged. NH Medicaid members had slightly higher rates of depression at 9.9%, compared to 7.8% in the commercial population. Additionally, the cost of treating depression was higher for NH Medicaid members, with an average treatment cost of \$239 PMPM and total medical PMPM cost of \$782, compared to \$69 and \$545, respectively, for commercial members. Anxiety disorders were slightly more common among the commercial population at 8.1%, compared to 6.8% in NH Medicaid. The treatment costs for anxiety disorders were slightly higher for commercial members, with a PMPM cost of \$131 and total medical PMPM cost of \$709, versus \$123 and \$568 for NH Medicaid members. NH Medicaid data reveals that other neurological and behavioral disorders, which did not appear in the top ten conditions among commercial members, had a prevalence of 5.7% and the highest total medical PMPM cost among the behavioral health conditions of \$961.

## **OTHER NOTABLE FINDINGS**

Lastly, back joint degeneration emerged as the most expensive condition to treat among commercial members, with an average PMPM cost of \$160 and total medical costs reaching \$956 PMPM. Similarly, NH Medicare members with this condition had an average condition treatment cost of \$147 PMPM and total average medical costs of \$1,188 PMPM. Notably, back joint degeneration did not appear among the top ten most prevalent conditions among NH Medicaid enrolled members.

## **DATA SOURCES AND SOFTWARE**

The analysis of the commercial population included enrollees who had commercial policies with a situs state of NH and used administrative medical claims and enrollment data from the New Hampshire Comprehensive Healthcare Information System (NH CHIS)—New Hampshire’s All-Payer Claims Database. This analysis was restricted to members ages 0-64 and to those with plans within the top non-ERISA commercial medical insurers (approximately 88% of the available data within NH CHIS).

Analysis of NH Medicaid enrollees used administrative medical claims and enrollment data from NH Department and Health and Human Services’ Enterprise Business Information (EBI) Data System. The data included claims from both managed care organizations (MCOs) and NH Medicaid fee-for-service. The analysis was restricted to members ages 0-64.

Analysis of NH Medicare enrollees used administrative medical claims and enrollment data from the Centers for Medicare and Medicaid Services (CMS). The analysis was restricted to enrollees with both Medicare Parts A and B, but no age restriction was applied.

The following software was used for this analysis: SAS 9.4 for data cleaning and aggregation, OptumInsight’s Symmetry Episode Treatment Groups® software for identification of conditions (ETGs) and Tableau software for visualization.

## END NOTES

1. Available claims data reflects data from NH Medicaid excluding long-term care costs, Medicare in NH and commercial claims data excluding ERISA-governed self-funded plans.
2. The Centers for Disease Control. Heart Disease Risk Factors [Online]. 2024. Available from: <https://www.cdc.gov/heart-disease/risk-factors/index.html>
3. Prevalence in this analysis refers to administrative prevalence. Administrative prevalence will be described in terms of number of members, per payer category, assigned a respective ETG, based on diagnosis, procedure, and drug code(s) listed on their medical claims.
4. This analysis does not conduct any methods to de-duplicate members across payers. For example, individuals who have dual eligibility for NH Medicaid and NH Medicare are in both analyses for NH Medicaid and NH Medicare. This is due to data privacy rules.
5. An individual may have more than one condition (ETG) in a given period. This analysis was completed at the condition level and does not de-duplicate individuals to singular conditions. Therefore, prevalence percentage rates will not total to 100% and cannot be added together in a meaningful way.
6. Kwapong YA, Boakye E, Khan SS, Honigberg MC, Martin SS, Oyeka CP, et al. Association of depression and poor mental health with cardiovascular disease and suboptimal cardiovascular health among young adults in the United States. *Journal of the American Heart Association*. 2023 Jan 23;12(3).
7. Sbolli M, Fiuzat M, Cani D, O'Connor CM. Depression and heart failure: the lonely comorbidity. *European Journal of Heart Failure*. 2020 May 29;22(11):2007–17.
8. OPTUMInsight's Symmetry Episode Treatment Groups® (ETGs®) software was used to identify Episode Treatment Groups (ETG). Optum®, Symmetry®, Episode Treatment Groups®, ETG®, service marks and logos are registered and unregistered trademarks of Optum and its affiliates in the United States and other countries. <https://www.optum.com/>
9. Medicare analysis includes all ages; however, a large majority of the members are aged 65 or older.
10. National Council on Aging. The top ten most common chronic conditions in older adults [Internet]. 2024. Available from: <https://www.ncoa.org/article/the-top-10-most-common-chronic-conditions-in-older-adults>
11. Harvey PT. Common eye diseases of elderly people: identifying and treating causes of vision loss. *Gerontology*. 2003 Jan-Feb;49(1):1-11.
12. American Academy of Ophthalmology. Frequency of Ocular Examination [Internet]. 2009. Available from: <https://www.aao.org/education/clinical-statement/frequency-of-ocular-examination>
13. Stanford Medicine Children's Health, Tonsillitis [Internet]. 2024. Available from: <https://www.stanfordchildrens.org/en/services/ear-nose-throat/conditions/tonsillitis.html>
14. New Hampshire Department of Health and Human Services, Division of Program Quality and Integrity. New Hampshire Medicaid Enrollment Demographic Trends and Geography [Internet]. 2024. Available from: <https://www.dhhs.nh.gov/sites/g/files/ehbemt476/files/documents2/bpq-da-medicaid-enrollment.pdf>



## APPENDIX: DATA TABLES

### TOP HEALTH CONDITIONS

Data Source	Conditions (ETGs)	Percent of Population with Condition	Per Member Per Month Cost for Condition	Total Medical Per Member Per Month Cost for Member with Condition
<b>Commercial</b>	Hypertension	9.10%	\$55	\$870
	Obesity	8.20%	\$46	\$694
	Anxiety disorder or phobias	8.10%	\$69	\$545
	Mood disorder, depressed	7.80%	\$131	\$709
	Other infectious diseases	7.70%	\$40	\$701
	Tonsillitis, adenoiditis or pharyngitis	7.30%	\$36	\$447
	Eye-related conditions	7.10%	\$13	\$521
	Non-malignant neoplasm of skin	6.50%	\$36	\$593
	Other inflammation of skin	6.10%	\$39	\$674
	Back joint degeneration	4.70%	\$160	\$956
<b>NH Medicaid</b>	Eye-related conditions	11.50%	\$12	\$704
	Mood disorder, depressed	9.90%	\$239	\$782
	Tonsillitis, adenoiditis or pharyngitis	9.00%	\$21	\$359
	Other infectious diseases	8.30%	\$27	\$640
	Anxiety disorder or phobias	6.80%	\$123	\$568
	Other drug dependence	6.60%	\$47	\$852
	Asthma	5.80%	\$35	\$652
	Obesity	5.70%	\$18	\$834
	Other neuropsychological or behavioral disorders	5.70%	\$227	\$961
	Hypertension	5.60%	\$35	\$1,030
<b>NH Medicare</b>	Hypertension	42.90%	\$58	\$962
	Cataract	24.50%	\$54	\$793
	Hyperlipidemia, other	21.20%	\$8	\$643
	Non-malignant neoplasm of skin	20.20%	\$25	\$727
	Diabetes	19.00%	\$91	\$1,056
	Back joint degeneration	15.10%	\$147	\$1,188
	Non-malignant neoplasm of prostate	15.00%	\$54	\$963
	Hypo-functioning thyroid gland	13.70%	\$26	\$942
	Ischemic heart disease	13.20%	\$196	\$1,352
	Obesity	12.80%	\$16	\$894

### COVERING THE CARE: TOP HEALTH CONDITIONS AND THEIR ECONOMIC IMPACT ACROSS NH



Funding is provided by:



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## **ABOUT THE INSTITUTE FOR HEALTH POLICY AND PRACTICE**

The Institute for Health Policy and Practice (IHPP) is an applied research institute located within the College of Health and Human Services at the University of New Hampshire. IHPP conducts and disseminates high-quality, cutting-edge applied research and policy work that enables health system partners to implement evidence-based strategies to improve population health.