

Employee retention trends in relation to obesity diagnosis: A claims-based analysis of self-insured employer health plans

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This study examined if a relationship between an obesity diagnosis and employee retention exists.

INTRODUCTION

Research from the National Center for Health Statistics (NCHS) published in September 2024 estimates that for the years 2021–2023, 40.3% of U.S. adults had obesity.¹ This remained consistent with their prior work examining 2017–2018.² With the growing availability of treatments to address obesity, many employers are evaluating whether to include weight management as part of their employee wellness programs and deciding whether they should include coverage for anti-obesity medications in their employer-sponsored health plan.^{3,4}

Considering the incremental costs of weight management program implementation, employers want to understand the potential return for their investment dollars. A decrease in comorbidities and lower medical costs can occur when weight loss is achieved, but these benefits may take months or years to fully materialize.^{5,6} This study sought to determine whether a relationship between obesity and employee retention exists, providing insights into the duration that employees with obesity remain with their employers.

METHODOLOGY

This was a longitudinal, retrospective cohort study that used the Milliman Consolidated Health Cost Guidelines™ Sources Database (CHSD), a payer administrative claims database with more than 50 million commercial lives for calendar years 2014–2023. Medical claims and enrollment data from self-insured employers were used for this study.

To identify subscribers (i.e., employees) with obesity, International Classification of Disease, Ninth Revision (ICD-9),

and Tenth Revision (ICD-10) diagnosis codes were used. To be included in the obesity cohort, individuals needed a diagnosis code for obesity or a body mass index (BMI) of 30 or greater. Individuals who only had a diagnosis code for overweight status were not included in the obesity cohort.

One or more claims with a relevant diagnosis for obesity during the study period were required. Alternatively, a lack of any obesity or overweight diagnosis codes was used to identify subscribers without an obesity diagnosis.

Subscribers were included if they were enrolled in a self-insured employer-sponsored health plan and had an observable “start date.” This was determined using the enrollment tables, which have a field to identify the months of data contributed for each contributor and a field to identify the months of enrollment for each member. The study was limited to members where the first enrollment observation began after the contributor’s first month of contribution. This limit was added to exclude subscribers who may have been employed prior to the available data months, to ensure retention coincided with their start rather than the middle of their tenure.

No minimum number of enrollment months were required in this study. Subscribers in fully-insured health plans were not included in this study. Employees’ enrollment and disenrollment in their employer-sponsored health plan was used as a proxy for the start date of employment and end date of employment, respectively. The distribution by ages is based on the age of the member at their enrollment start date.

A Kaplan-Meier estimator with right censoring was used to produce retention rates for each study cohort for disenrollment from the health plan.

RESULTS

Demographic data for cohort size along with age and gender splits can be seen in Figure 1.

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5. Garvey, W. T., Mechanick, J. I., Brett, E. M., Garber, A. J., Hurley, D. L., Jastreboff, A. M., Nadolsky, K., et al. (2016). American Association of Clinical Endocrinologists and American College of Endocrinology comprehensive clinical practice guidelines for medical care of patients with obesity. Retrieved March 8, 2025, from *Endocrine Practice* 22(Suppl. 3). <https://pro.aace.com/files/obesity/final-appendix.pdf>.

6. Thorpe, K., Toles, A., Shah, B., Schneider, J., & Bravata, D. M. (2021). Weight loss-associated decreases in medical care expenditures for commercially insured patients with chronic conditions. *Journal of Occupational and Environmental Medicine* 63(10), 847–851. Retrieved March 8, 2025, from <https://doi.org/10.1097/JOM.0000000000002296>.

FIGURE 1: BASELINE DEMOGRAPHICS

	TOTAL STUDY POPULATION		SUBSCRIBERS WITH ANY OBESITY DIAGNOSIS			SUBSCRIBERS WITH NO OBESITY DIAGNOSIS		
	n	% OF COHORT†	n	% OF COHORT†	% OF TOTAL	n	% OF COHORT†	% OF TOTAL
UNIQUE TOTALS*	15,829,951	100%	3,242,650	100%	20%	12,587,301	100%	80%
MALE‡	8,743,105	55%	1,517,713	47%	17%	7,225,392	57%	83%
FEMALE‡	7,086,076	45%	1,724,855	53%	24%	5,361,221	43%	76%
18–29	4,870,969	31%	568,933	18%	12%	4,302,036	34%	88%
30–49	7,103,264	45%	1,584,124	49%	22%	5,519,140	44%	78%
50+	3,855,718	24%	1,089,593	34%	28%	2,766,125	22%	72%

* Subscriber counts presented in this table reflect the observed counts from Milliman CHSD commercial claims data for calendar years 2014–2023.

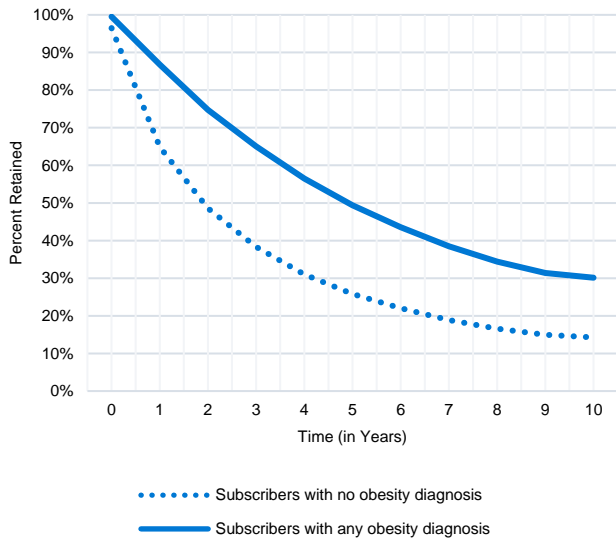
† Reflects the percentage of total subscribers within the given cohort (e.g., subscribers with any obesity).

‡ There were a small number of subscribers with unknown gender; aggregate does not match unique total.

Subscribers who had a diagnosis of obesity were found to have higher rates of retention than those who did not have an obesity diagnosis. See Figure 2.

- Retention at 5 years: 49% vs. 26%; $p < 0.0001$.
- Retention at 10 years: 30% vs. 14%; $p < 0.0001$.

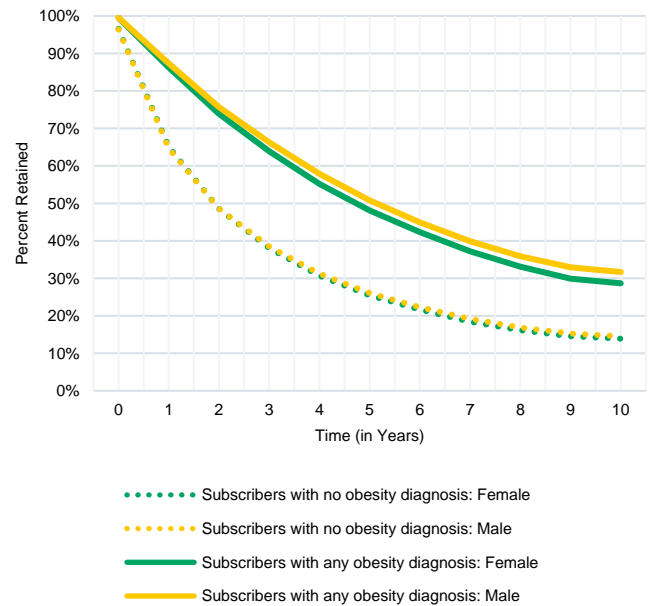
FIGURE 2: SUBSCRIBER RETENTION OVER TIME



By gender, subscribers who had a diagnosis of obesity were found to have higher rates of retention than those who did not have an obesity diagnosis for both males and females. See Figure 3.

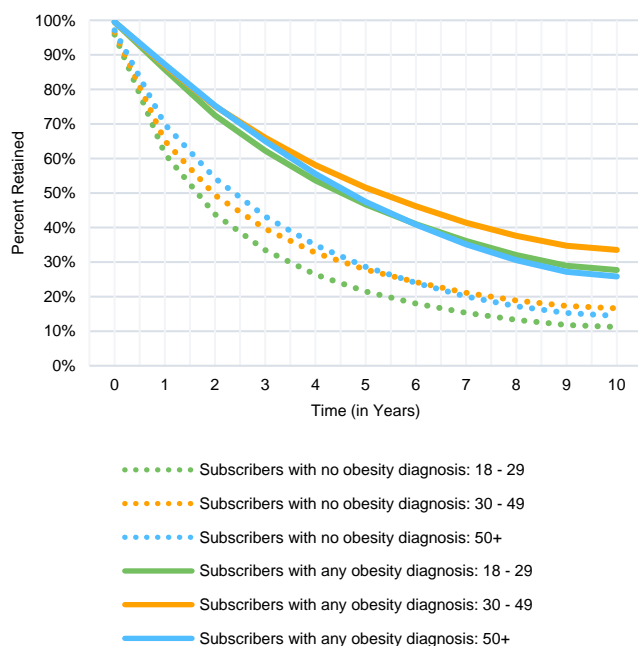
- Retention at 5 years:
 - Male: 51% vs. 26%; $p < 0.0001$.
 - Female: 48% vs. 25%; $p < 0.0001$.
- Retention at 10 years:
 - Male: 32% vs. 15%; $p < 0.0001$.
 - Female: 29% vs. 14%; $p < 0.0001$.

FIGURE 3: SUBSCRIBER RETENTION BY GENDER OVER TIME



Across all age ranges, subscribers who had a diagnosis of obesity were found to have higher rates of retention than those who did not have an obesity diagnosis. See Figure 4.

- Retention at 5 years:
 - Ages 18–29: 47% vs. 22%; $p < 0.0001$.
 - Ages 30–49: 52% vs. 28%; $p < 0.0001$.
 - Ages 50+: 47% vs. 29%; $p < 0.0001$.
- Retention at 10 years:
 - Ages 18–29: 28% vs. 11%; $p < 0.0001$.
 - Ages 30–49: 34% vs. 17%; $p < 0.0001$.
 - Ages 50+: 26% vs. 14%; $p < 0.0001$.

FIGURE 4: SUBSCRIBER RETENTION BY AGE OVER TIME

DISCUSSION

This study demonstrated that subscribers with a known diagnosis of obesity have higher retention across age and gender groups. Higher retention rates are due to multiple factors, but because of the relationship observed between obesity and retention in this study, employers are likely to experience extended retention of employees who have obesity.

It is already known that obesity is often underdiagnosed in medical claims.⁷ This study found the difference between the obesity rate observed in the commercial self-insured population (20%) and the national NCHS reported obesity rate (40.3%) to be meaningful. Mylona et al. noted differences in obesity rates between commercial, Medicaid, and Medicare beneficiaries, where the commercial rate was 36.1%.⁸ Regardless, this study reinforces that obesity is likely either underdiagnosed or there is under-documentation in claims data.

While we know that there is no single reason employees remain with their employer, a survey conducted by AHIP found that 56% of employees stated that their health plan was the reason they remained with their employer.⁹ Previous studies have shown greater healthcare costs in those with obesity.

The results of this study found that employees with an obesity diagnosis stay with their employer longer than individuals without an obesity diagnosis. Thus, both employees and employers may benefit from weight management programs and treatments because of the longer retention periods among those with an obesity diagnosis.

CONCLUSION

Many employers are evaluating implementing weight management programs and coverage of anti-obesity medications in their employer-sponsored health plans, but they have expressed concerns that employees will leave the employer before the benefits of these programs and treatments can be realized. This study demonstrated that subscribers with a diagnosis of obesity have higher retention across all age bands and gender groups compared to subscribers without an obesity diagnosis. Among those with an obesity diagnosis, retention was highest among male subscribers and among subscribers ages 30–49. These findings underscore the importance of understanding the retention patterns among employees with obesity, which could inform future strategies regarding weight management programs and treatments.

LIMITATIONS

This is a retrospective claims analysis and, as such, the outcomes are limited by the accuracy of the coding completed at the time of the patient encounter. This study is unable to determine the extent of under- or overcoding of obesity. Thus, it is probable that a number of subscribers with obesity were included in the nonobese cohort, which would potentially lessen the difference in retention between the obese and nonobese populations.

Enrollment in self-insured employer-sponsored insurance was used as a proxy for employee start dates. Some employees may enroll in insurance later than their employment start date, which would not be reflected in the retention curves in this study. We relied on the data contributor identifier and presence of the member (via unique member identifiers) to determine continued retention. If contributor or member identifiers changed over the study period, this would be captured as the end of the data contribution or employment. There may be additional confounders that contributed to differences in retention that are not accounted for by the variables of interest and subgroup analyses in this study.

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8 Mylona, E.K., Benitez, G., Shehadeh, F., Fleury, E., Mylonakis, S. C., Kalligeros, M., & Mylonakis, E. (2020). The association of obesity with health insurance coverage and

demographic characteristics: A statewide cross-sectional study. *Medicine* 99(27), e21016. Retrieved March 8, 2025, from <https://doi.org/10.1097/MD00000000000021016>.

9 Bolden-Barrett, V. (February 8, 2018) Health coverage the biggest reason for staying at current job, 56% of employees say. HR Dive. Retrieved February 7, 2025, from <https://www.hrdiver.com/news/health-coverage-the-biggest-reason-for-staying-at-current-job-56-of-emplo/516588/>.

A portion of the study period overlapped with the onset and peak of the COVID-19 pandemic. We compared retention rates from 2014 – February 2020 to the retention described in the results to understand the impact of COVID-19. The retention rates were not found to be materially different between the two time periods. It is still possible that COVID-19 impacted retention results either due to disruptions to employment or healthcare utilization.

Additionally, as the use and awareness of GLP-1 medications to treat obesity becomes more widespread, it is possible that the diagnosis rate of obesity will increase over time as a result of more accurate coding. This could impact cohort selection and retention trends after 2021.

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Guidelines issued by the American Academy of Actuaries require actuaries to include their professional qualifications in all actuarial communications. Jessica Naber is a member of the American Academy of Actuaries and meets the qualification standards for authoring this report.

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