Examination of Weight-related Coding Practices in Administrative Claims – Implications for Future Analyses

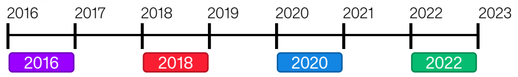
Brenna L. Brady[1], Liisa Palmer[1]
[1]Merative, Research and Analytics, Ann Arbor, MI, USA

MarketScan by merative

Study Summary

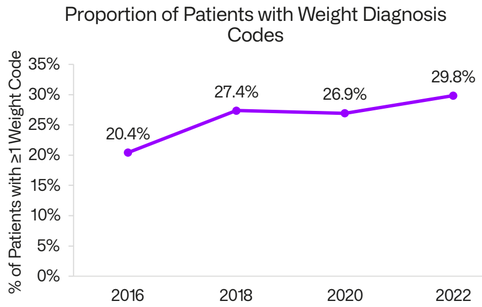
Study Question: Is reporting of weight-related diagnosis codes in administrative claims improving over time as more treatment options become available?

Study Design:



Annual cohorts of commercially insured adults with eligibility for the full year and ≥1 office visit

Study Results:



Conclusion: Although weight-related diagnosis codes remain underutilized, there has been progress in claims-based reporting of patient weight since 2016. Coding patterns appear to be influenced by both patient weight class and therapy utilization.

Background

- The prevalence of overweight and obesity among US adults has been increasing over the past decades. Approximately 40% of US adults are now classified as obese, a condition that places notable burdens on both individuals and society.[1-4]
  - Obesity can limit individual's ability to perform regular daily activities and negatively impact qualify of life.[1-2]
  - Patients with obesity are at greater risk for a host of other comorbidities including cardiovascular disease, diabetes, and cancer.[3]
  - Individuals living with obesity incur healthcare costs estimated to be double than individuals without obesity; costs continue to rise with more severe obesity.[4]
  - Obesity has also been associated with productivity loss and indirect costs.[3]
- Although administrative claims databases provide detailed health information for large populations of patients, and thus represent an important data source for health outcomes research, certain conditions, like overweight or obesity, are known to be under-reported.
  - Studies have found weight-based diagnoses appearing in claims to be accurate when reported; however, under-reporting has limited the use of administrative claims databases in weight focused analyses.[5-6]
  - Although weight loss medications have been available for years, release of new medications with different mechanisms of action have reinvigorated interest and may have influenced coding practices.

Objective

- To investigate recent trends in the utilization of weight-based ICD-10 codes in the administrative claims record.

Methods

Data Sources

- Merative™ MarketScan® Commercial Claims and Encounters Database
  - Data from 1/1/2016 through 12/31/2022 were used for analyses
  - The MarketScan administrative claims databases contain data on the full healthcare experience (inpatient, outpatient, and outpatient pharmacy) for individuals with employer sponsored commercial or Medicaid insurance in the United States.
- The MarketScan data was accessed using Treatment Pathways 4.0, an online analytic platform.

Methods, Cont.

Study Design and Outcomes

- Annual cohorts of adult patients (≥19 years of age as of January 1 of the calendar year) with continuous medical and pharmacy eligibility for the whole year and ≥1 outpatient office visit during the year were selected for the 2016, 2018, 2020, and 2022 calendar years.
- The proportion of patients with weight information coded (via ICD-10 codes) were assessed in the annual cohorts. Two different categories of weight codes were examined (***Table 1***).

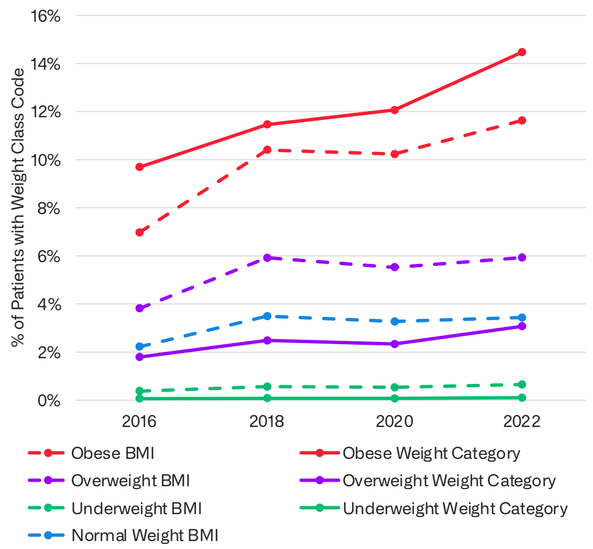
Table 1. Weight-related ICD-10 Codes

	BMI Code	*Weight Category Code*
Underweight	Z68.1 (BMI ≤19.9)	R63.6
Normal Weight	Z68.20-Z68.24 (BMI 20.0-24.9)	N/A
Overweight	Z68.25-Z68.29 (BMI 25.0-29.9)	E66.3
Obese	Z68.3x or Z68.4x (BMI ≥30.0)	E66.0x, E66.1, E66.2, E66.8, E66.9

Results

- Approximately 9-15 million patients had continuous eligibility and ≥1 outpatient office visit in the calendar year and were included in each of the four annual cohorts.
- The proportion of patients with ≥1 weight-related code increased over the study period from 20.4% in 2016 to 29.9% in 2022 (***Summary Figure***).
  - On average, patients with ≥1 weight-related code had 6-7 codes during the calendar year.
  - Increases in weight-related coding over the study period were largely driven by increased reporting of obesity codes, both BMI and weight category (***Figure 1***).

Figure 1. Utilization of Weight-related Diagnosis Codes



- Among patients with ≥1 weight class code, most patients had codes for a single weight class during the calendar year (***Figure 2***).
  - Patients with ≥1 overweight code were the most likely to have another weight class code during the calendar year.
- Utilization of BMI versus weight category codes varied across the three weight classes with both code types available (***Figure 3***).
  - Patients living with obesity were most likely to have weight category codes in their record, while patients living with overweight or under weight were most likely to have BMI codes in their record.
  - Patients living with obesity were far more likely to have both weight category and BMI codes in their record compared to both patients with overweight or underweight.

Figure 2. Weight Class Codes Among Patients with ≥1 Code

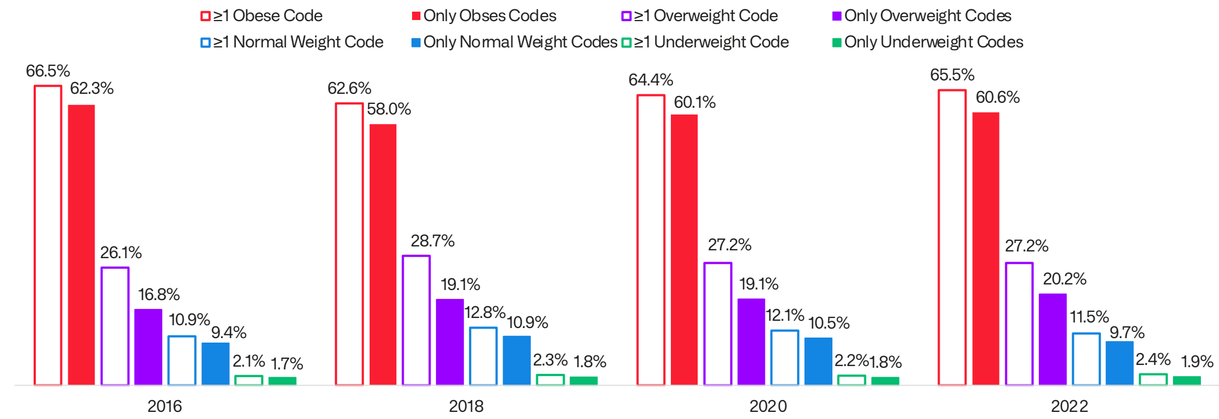
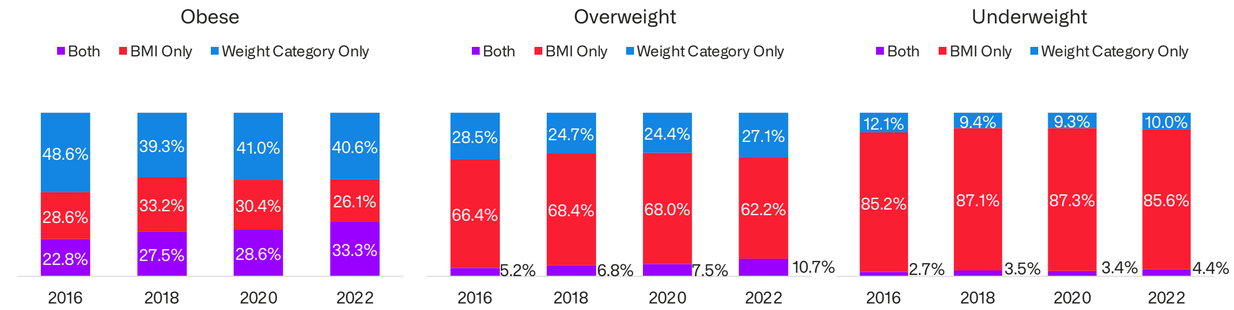


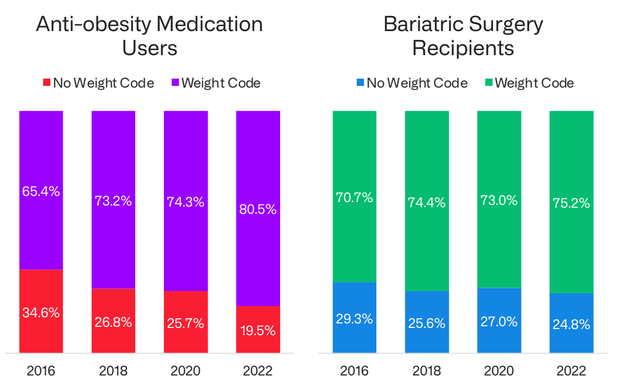
Figure 3. Use of Weight Category versus BMI Codes by Weight Class Among Patients with ≥1 Code



Results, Cont.

- Although use of anti-obesity medication use and bariatric surgery was low, increases were observed over the study period.
  - Use of anti-obesity medications increased from 0.5% in 2016 to 1.0% in 2022.
  - Rates of bariatric surgery increased from 0.6% in 2016 to 0.8% in 2022.
- Increased coding of weight was also observed over the study period among patients who had ≥1 fill for an anti-obesity medication or ≥1 procedure for bariatric surgery (***Figure 4***).
  - Among anti-obesity medication users, 80.5% of patients had ≥1 weight-related diagnosis code in 2022 compared to 65.4% in 2016.
  - Weight-related diagnosis codes were present for 70.7% of bariatric surgery patients in 2016 and increased to 75.2% in 2022.

Figure 4. Weight-related Coding in Treated Patients



Limitations

- This study included patients with commercial insurance and may not generalize to individuals with other types of insurance or the uninsured.
- Weight-related codes are still under-reported in administrative claims; thus, caution should be used in interpreting results, especially around prevalence.

Conclusions

- Although weight-related diagnosis codes remain under utilized, the trend for increased use is making assessment of weight in administrative claims more feasible.
- Obesity codes are more likely to be used compared to other weight class codes and are driving overall weight-related coding increases over time.
  - There is limited evidence of cross weight class coding over a calendar year, supporting findings of prior studies that point to accuracy of weight-related diagnosis codes where reported.
- Analyses among patients treated with anti-obesity medications or bariatric surgery indicate that reimbursement may be partially driving coding trends, as increased coding, especially among anti-obesity medication users, was observed over the study period.
  - Continued assessment of weight-related coding practices is warranted, especially as increasing availability of as newer anti-obesity medications may further alter use of weight-related diagnosis codes in the administrative claims record.

References

1. Hecker J, et al. BMC Public Health. 2022;22:46.2. Ervin CM, et al. Clin Obes. 2020;10(6):e12387 3. Petersen R, et al. Prev Chronic Dis. 2019;16:180579 4.Cawley J, et al. J Manag Care Spec Pharm. 2021;27(3):354-366. 5. Samadoulougou S, et al. *Obes Sci Pract*. 2020;6:677-693. 6. Ammann EM, et al. Pharmacoepidemiol Drug Saf. 2018;27(1):1092-1100.

Disclosure

All authors are employees of Merative who provided funding for this study.

Presented at ISPOR 2024, May 5-8, 2024, Atlanta, Georgia

merative