

Real-World Insights Into Obesity Pathways, Prescribing, Patient Complexity, and Care Gaps Through Primary Care Databases

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Background

While obesity is largely managed in primary care (PC), evidence surrounding coding and uptake of core therapies in routine practice remains limited:

- Obesity affects around 30% of adults in England, with 66% either overweight or living with obesity (2024).
- Previous work has shown that obesity diagnosis codes are infrequently recorded, despite BMI data being available in routine records.
- This highlights the need for real-world evidence on obesity identification, treatment pathways, clinical complexity, and service use.

Aims

This work utilised PC records to characterise obesity identification, coding completeness, body mass index (BMI), treatment patterns, and service use.

Methods

Retrospective analysis was conducted using routinely collected UK PC data (2014-2024) in adults aged ≥18 years with either a recorded BMI ≥30 or an obesity-linked diagnosis code. Patients were indexed at the earliest recorded evidence point.

Post-index records were used to assess coding overlap, obesity-linked therapy exposure, time to first treatment, persistence using ≥180-day prescription gaps, switching using >1 recorded regimen, longitudinal BMI, mapped comorbidities, blood biomarkers, and completed appointments per patient-year.



1. Cohort Identification

- Adults ≥18 with BMI ≥30 and/or obesity-linked code.



2. Index Date Defined

- Earliest recorded BMI ≥30 or obesity-linked code.



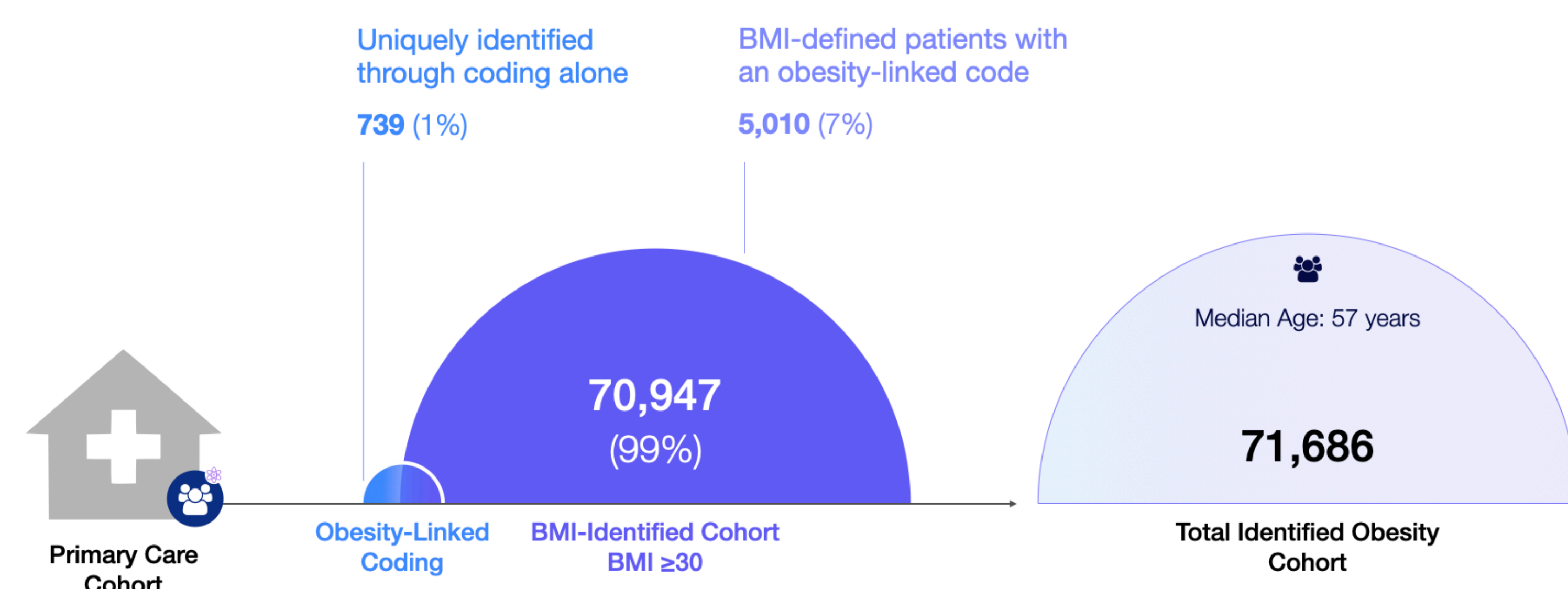
3. Post-index Record Analysis & Outcome Derivation

- Medications, BMI, biomarkers, comorbidities, and appointments.
- Coding overlap, treatment exposure, time-to-treatment, ≥180-day gaps, switching, BMI trajectory, service use.

Results

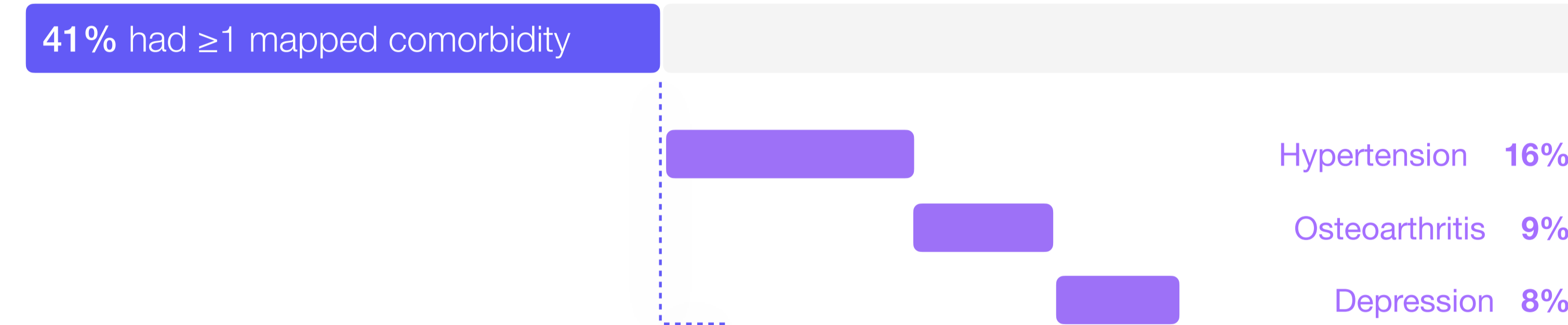
Obesity Coding vs. BMI-Driven Patient Identification

The majority of patients were identified through BMI, with only a 7% overlap with coding.

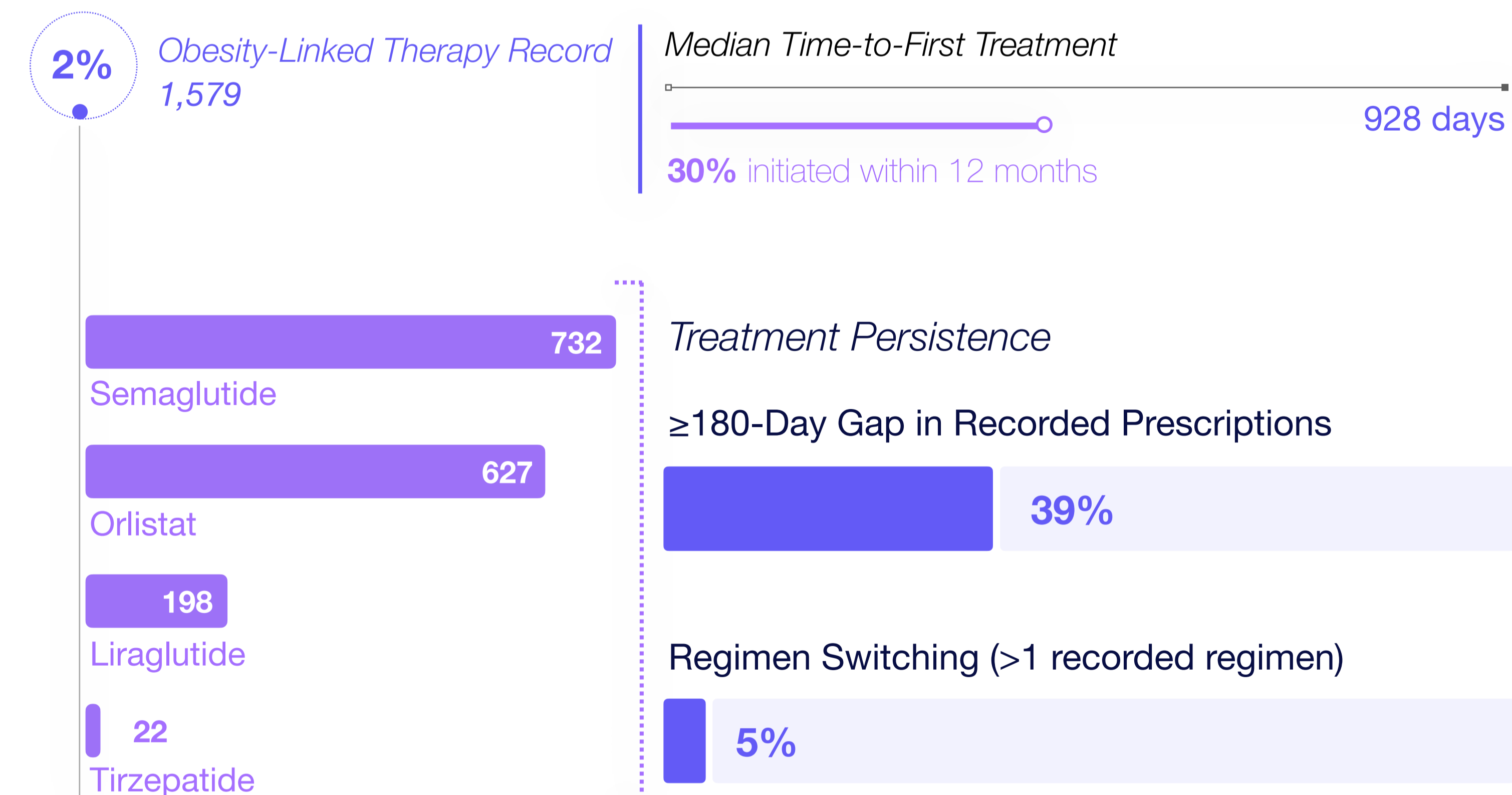


Obesity Cohort Characteristics | Comorbidity and Treatment Patterns

Most Common Comorbidities Across the Obesity Cohort

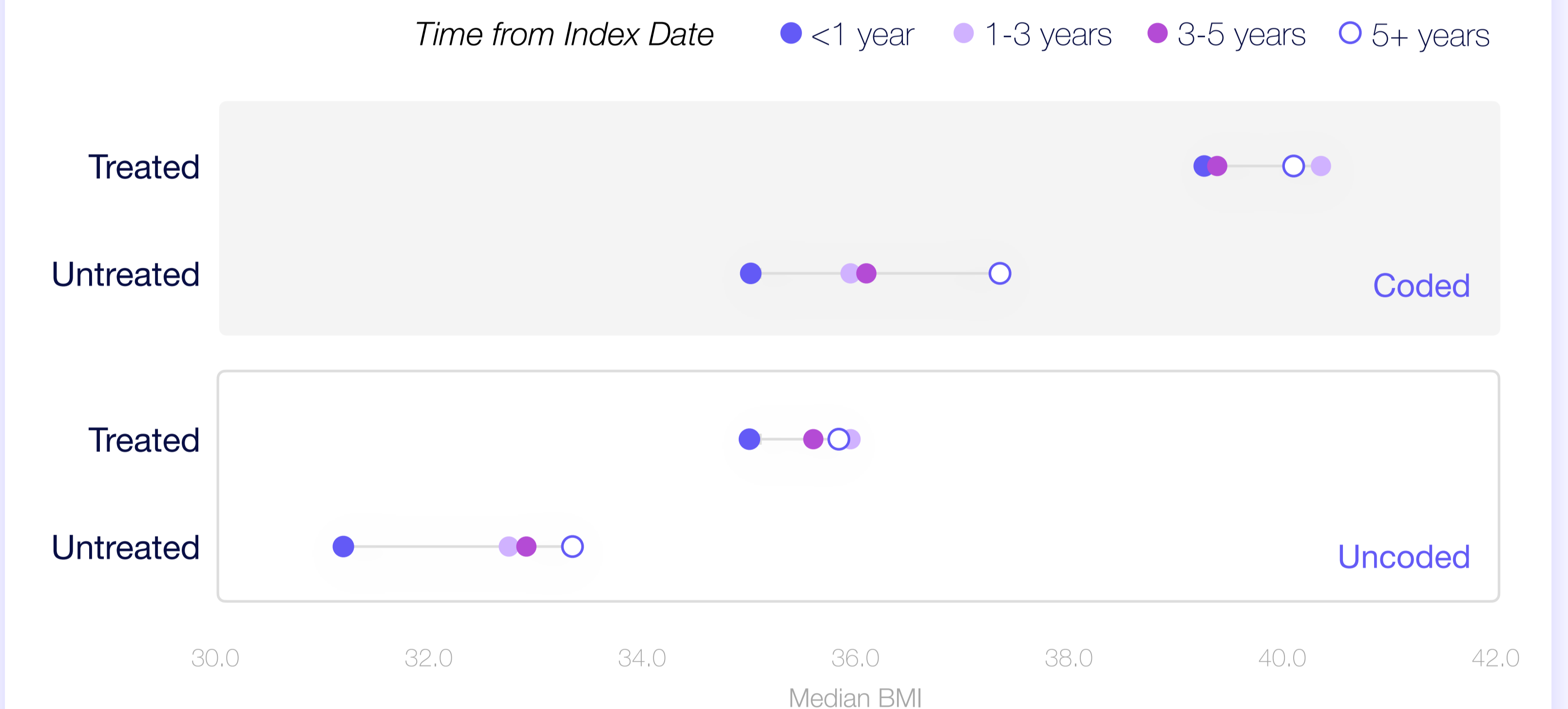


Recorded Obesity-Linked Therapy Exposure & First Recorded Regimens



Longitudinal BMI Trends by Coding and Treatment Status

- ▶ At <1y, median BMI was higher in coded than uncoded patients, both obesity therapy-treated (39.3 vs. 35.0) and untreated (35.0 vs. 31.2).
- ▶ Untreated groups showed modest increases across later time bands, whereas treated-group median BMIs remained broadly stable.



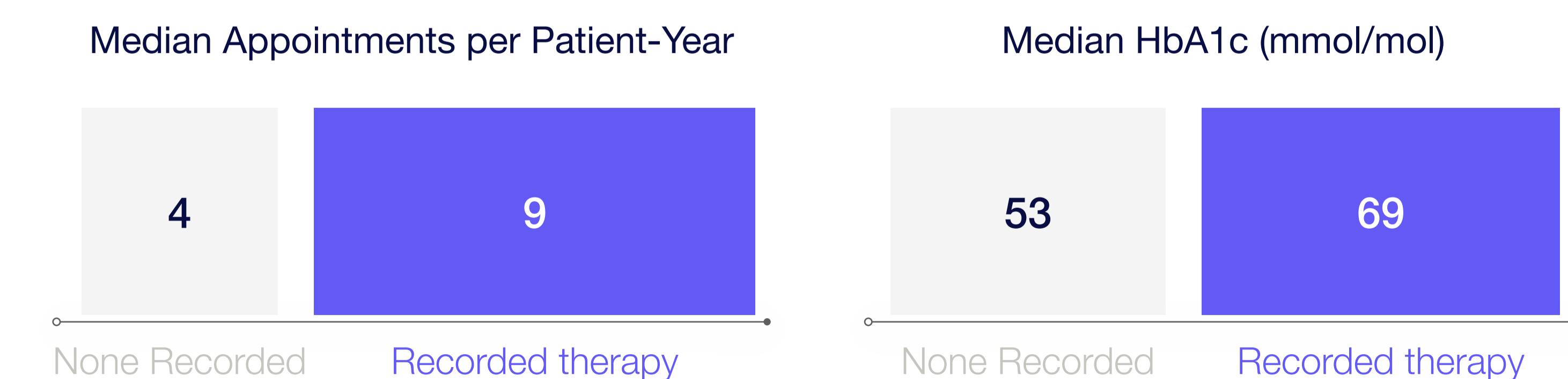
Conclusions

- Obesity was commonly identified through BMI rather than specific coding in PC.
- Recorded obesity-linked therapy use appeared infrequent and delayed, and was concentrated in patients with higher recorded BMI and clinical complexity.
- These findings highlight the value of longitudinal real-world monitoring of prescribing, utilisation, and outcomes aligned to key cardiometabolic endpoints in therapy evaluation and future care pathway optimisation.

Future Work

- Further validate prescription-derived treatment pattern measures.
- Assess how coding, treatment exposure, and clinical complexity relate to downstream cardiometabolic outcomes and service use.
- Extend this work to enrich the real-world obesity evidence landscape, enabling deeper characterisation of patient subgroups, treatment pathways, and unmet need to support therapy evaluation and pathway optimisation in routine care.

Clinical Complexity and Healthcare Utilisation by Treatment Status



Patients with recorded obesity-linked therapy had higher median completed appointments (9 vs. 4 per patient-year) and higher recorded HbA1c (69 vs. 53 mmol/mol) than patients without recorded therapy, supporting a profile of greater clinical complexity and service use.

References

1. Health Survey for England 2024. 2. Khunti et al., IMPACT-O UK primary care cohort.

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