

Demographic and Socioeconomic Characteristics of People with Diabetes who Purchase Over the Counter Insulin

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Research Question

- Are there demographic or socioeconomic characteristics among people with diabetes that are associated with a higher likelihood of purchasing over the counter insulin?

Insulin Prices and OTC Insulin Use

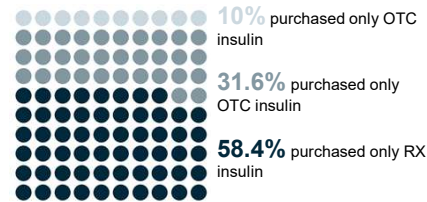
- As insulin prices rise, there are reports of individuals turning to over the counter insulin instead of prescription insulin, a less expensive, older formula of insulin that can be dangerous because it takes longer for the body to metabolize and users do not have accurate dosing guidance from a doctor (Tribble, Sarah Jane)
- 14.1% of adults with diagnosed diabetes in 2018 reported relying on insulin alone to manage their diabetes (CDC)
- The price of insulin continues to rise, with the price of one vial of Humalog (insulin lispro) increasing by more than 1000% from 1999 to 2019 (Rajkumar, S. Vincent)
- Existing research does not distinguish between over the counter and prescription insulin use
- From 1996-2017, 20.84 - 59.73% of people with an insulin purchase for diabetes purchased over the counter insulin

Unique Contributions of the MEPS Data

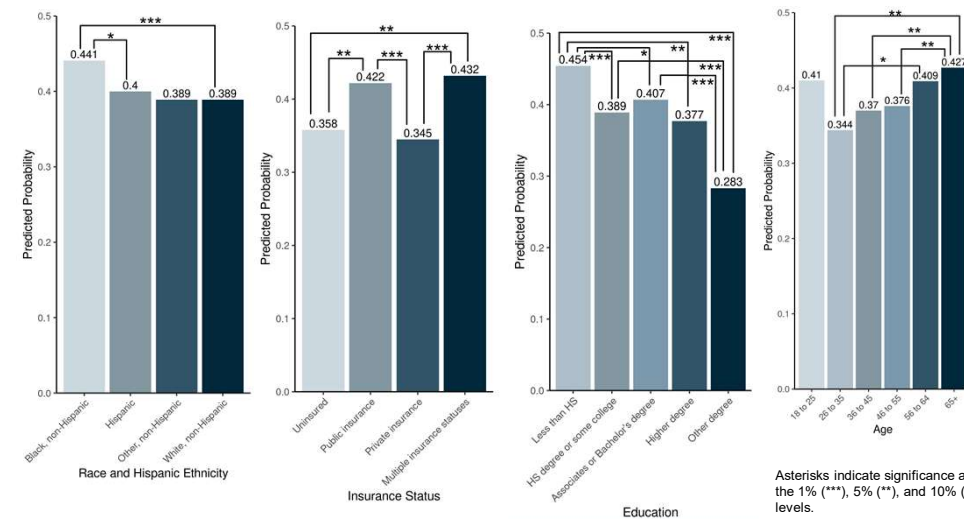
- We use the Panel 1-21 Medical Expenditure Panel Survey (MEPS) data spanning 1996-2017 to distinguish between over the counter and prescription insulin purchases while linking the purchase both to a diabetes condition and standardized socioeconomic and demographic variables from IPUMS MEPS

Insulin Purchases in the Sample

6293 people with insulin purchase for diabetes in sample:



Predicted Probabilities of Purchasing Over the Counter Insulin vs Only RX Insulin



Key Analytic Decisions

Population:

Adults with diabetes who had at least one insulin purchase for their diabetes in the panel

Outcome:

Whether the respondent had at least one over the counter insulin purchase for their diabetes

The Model:

We run population-weighted logit models accounting for complex survey design and report all results as the predicted probability of having at least one over the counter insulin purchase

Likelihood of Purchasing OTC Insulin

- Those who are **Black, non-Hispanic** are more likely to purchase OTC insulin than those who are Hispanic (4.1 percentage points) and those who are White, non-Hispanic (5.2 percentage points)
- Those covered by **public insurance** were more likely to purchase OTC insulin than those who are covered by private insurance (7.7 percentage points) and those who are uninsured (6.4 percentage points)
- Those who had **multiple insurance statuses** were more likely to purchase OTC than those covered by private insurance (8.7 percentage points) and those who are uninsured (7.4 percentage points)
- Those with **less than a high school degree** were more likely than those with any other educational attainment to purchase OTC insulin
- Those in the **two oldest age groups** are most likely to purchase OTC insulin
- Women** with diabetes are more likely to purchase OTC insulin than men with diabetes (3.8 percentage points)

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